

720  
**C A S E S**  
**AND PRACTICAL**  
**R E M A R K S**  
**IN**  
**S U R G E R Y.**

**WITH**  
**SKETCHES of MACHINES,**  
**OF**  
**Simple CONSTRUCTION, Easy APPLI-**  
**CATION, and Approved USE.**

**By BENJAMIN GOOCH,**  
**SURGEON.**

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**L O N D O N:**

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**MDCCLVIII.**

95





T O  
WILLIAM FELLOWES, Esq;  
O F  
SHOTTESHAM in NORFOLK.

S I R,

**I**T was your erecting an Infirmary for the benefit of the poor, which gave me an opportunity of making some of the following observations in Surgery; and when the opinion of my friends inclined me to make them publick, a sense of my obligations to you called for this profession of my gratitude.

PROVIDENCE, that wisely orders all things, has blessed you with an ample fortune; it is a blessing because you employ it to the best purposes: the compassion you shew to the necessitous and miserable, and the constant care you take to remove  
A 2                      their

their wants, and relieve their distresses, make your name revered by more than those who are daily objects of your bounty, and will ever be remembered to your honor.

THAT benevolence which makes you the Guardian of the poor, makes you also an universal Friend and Benefactor : were I to indulge my own inclination, I should enlarge upon your Character; but the probability of offending you, and the certainty of not doing justice to the subject, restrain me. I am,

SIR,

Your most obliged

humble servant,

B. GOOCH.

# THE P R E F A C E.

**I**N the last half century, the knowledge of Surgery has been much advanced by a general spirit of emulation, which seems to have prevailed throughout most parts of *Europe*; it has been cultivated here, by men of great application and abilities in the profession, and the general benevolence of the public has coöperated with their private endeavors: for, to the immortal honor of this Kingdom, in less than half that period of time, many Hospitals have been founded, and are now well supported by voluntary contributions, which not only afford the best relief to the greatest and most deplorable objects of charity, but have a direct tendency to promote and perfect the knowledge of this art, and make the benefit extend to all ranks of people.



IT may be truly said, that Surgery is arrived to such a degree of perfection in *Great Britain*, as leaves no room for *France* any longer to boast of her superiority; but though Anatomy and every branch of Surgery flourish, and are accurately taught, in *London*, by the most celebrated men, that a journey to *Paris* is become unnecessary to complete a Surgeon's education, still we must think the *Parisians* happy in their late very excellent *Institution*, the *Royal Academy of Surgery*, chiefly owing to two great men *Mareschal* and *Peyronie*.

THE recording of memorable facts has been looked upon as a laudable undertaking, in all ages and countries; and though the fundamentals of Surgery are now so well known and established, that little seems left to be done in that point; yet, making observations carefully and communicating them faithfully, with the particular treatment and event of the most remarkable cases, will prove of great use, and be the surest guide to our future practice, in many instances: it is therefore to be wished, that every attentive practitioner  
would



would so shew his inclination of being useful to the community, in the plainest language, with that conciseness and perspicuity which is best adapted to the relation of a matter of fact, and the candid will excuse little errors.

THE following papers were digested into the order in which they now stand, during my confinement at *Bath*, and after adding a few sketches more fully to illustrate some of the cases, I shewed them to my friends; their approbation determined the publication of them, giving me reason to hope, that what was originally intended only for the information of those under my own care, might prove of more general use: I heartily wish it may, for to reflect upon my having done any kind of service to a profession I highly regard, and in which I have spent the better part of my days, will afford me as great a pleasure as I am capable of enjoying in my valetudinary state.

SHOTTESHAM,  
Dec. 24th, 1757.

THE STATE OF NEW YORK

In SENATE,  
January 10, 1891.

REPORT  
OF THE

COMMISSIONERS OF THE LAND OFFICE

IN RESPONSE TO A RESOLUTION  
PASSED BY THE SENATE

ON JANUARY 10, 1891.

ALBANY:

THE STATE OF NEW YORK

A

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T H E

C O N T E N T S.

A CASE of a fractured scull in an old  
man page I

An uncommon case of a fracture of the scull  
7

A fracture upon the Os Frontis 9

A case in which the Trepan was applied to the  
Occipital Bone with success 11

A Species of tumor, called by the common peo-  
ple, the Mumps 17

A glandular tumor situated under the ear suc-  
cessfully extirpated. 20

A



x      The CONTENTS.

- A glandular tumor of above twenty years  
standing extirpated* 22
- A violent extension and contusion upon the mus-  
cles of the neck, attended with uncommon  
circumstances* 24
- A great number of large strumous glands situ-  
ated in the Axilla and under the pectoral  
Muscle successfully extirpated, and an Oph-  
thalmia cured* 27
- A cancerous breast of an enormous size extir-  
pated, &c.* 33
- A cancerous disease which arose from drinking  
some liquor impregnated with the matter  
that issued from an ulcerated cancer* 39
- An abscess in the Pleura opened and cured* 41
- An incysted tumor between the muscles of the  
Abdomen and the Peritonæum* 45
- A Prolapsus Ani, new invented truss for it,  
&c.* 51

*A sign-*



The CONTENTS. xi

*A singular case of the stone, remarks upon the cutting Gorget, &c.* 54

*A case in which sixteen stones were extracted out of the Urethra between the Scrotum and the Bladder; and a remarkable occurrence in Lithotomy* 57

*A case of the stone in a woman attended with some uncommon circumstances* 60

*A case of a complete Hernia attended with a mortification in an aged woman, perfectly cured* 62

*A remarkable scrotal Hernia in an infant about ten weeks old* 68

*A scrotal Hernia intestinalis in which the operation was performed five days after the strangulation* 71

*A case of a similar nature where the operation was omitted* 74

*An Hydrocele of the Tunica vaginalis taken for a scirrhus testicle* 76

*An*

*An Hydrocele taken for an intestinal Hernia  
and treated accordingly* 78

*A case of an Hydrocele of the Tunica vaginalis on each side, attended with some extraordinary circumstances, in which castration was performed on one side, and the operation for the radical cure on the other, according to Mr. Douglas's method* 80

*A case of an enlarged testicle from a blow, which succeeded happily* 84

*A Cancer upon both the Testicle and Epididymis from a blow, in which castration succeeded* 86

*A Dropsy situated between the rectus, vastus internus and externus Muscles immediately above the knee, which had been long looked upon as an incurable White-swelling* 87

*A true Scirrhus upon the thigh* 90

*Of Excrescences with a cancerous aspect* 92

*Of Wens* 95

*A com-*

The CONTENTS. xiii

*A compound fracture in which the power of Nature was manifested in a very singular manner ; and the method of treating compound fractures* 97

*Miscellaneous remarks upon luxations* 103

*A very remarkable case of a simple fracture of the leg, in which strait bandage and other mismanagement caused a mortification, and interrupted Nature in the union of the bone: and the method of treating simple fractures* 108

*Remarks upon amputation, with a certain method of preserving flesh to cover the end of the bone after an amputation above the knee* 123

*Of a compound fracture and an amputation in consequence of it, attended with very remarkable circumstances, with a sketch of a machine for stopping the hæmorrhage when the vessel cannot be secured by a ligature* 131

*The opinion concerning Coagulums of blood plugging up the arteries after amputation*  
briefly



xiv      The CONTENTS.

*briefly considered; with a remark upon the  
Agaric of the Oak* 139

*A case in which the Tibia was affected to an  
extraordinary degree in a very short time  
by a critical discharge of febrile matter upon  
a leg, which had been fractured some years  
before* 142

*An ulcer with a Caries of the Tibia in which  
the actual cautery seemed of signal service* 144

*Of weak and distorted limbs; various cases  
cured and relieved by proper and well adap-  
ted machines* 148

*A singular dislocation of the Astragalus* 155

*A mortification in a man aged 81, where the  
Bark seemed of great service* 157

*A scirrhus tumor upon the heel of a very  
threatening aspect successfully extirpated* 160

*A scrophulous Caries of the Os Humeri, &c.  
cured after having been ill treated, and the  
limb condemned to be taken off* 162



The CONTENTS. xv

*A tumor of the lymphatic kind of an enormous  
size* 165

*A tumor of the ganglion and steatomatous  
Species mixt together* 167

*A wound of the tendons* 171

*A violent Burn by a Meteor in a tempest* 173

*Some extraordinary effects of a fever* 175

*A case of fragility, flexibility and dissolution  
of the bones* 178

As

As the Author could not attend the press, he begs the Reader to correct the following Errors, and those in the pointing, as he shall meet with them.

**P**AGE 15. l. 20. dele *s*, in considerations. p. 19. l. 13. for *Aretæus* say *Bonetus*, adding at the conclusion of that paragraph, *the pathognomonic of which also appeared in the throat.* p. 23. l. 26. dele *when*, adding, and *whenever it shall so happen.* p. 34. l. 8. after *before*, add *and.* p. 38. l. 2. for *a* put *the.* From p. 45 to 51. wherever *Caust. commun. fort.* occurs, say *Lapis infernalis.* p. 46. l. 4. after *had*, add *long.* p. 55. l. 11. after *the*, add *lateral*, and in l. 28. dele comma after *pretty.* p. 58. l. 22. for *was*, put *were.* p. 89. l. 23. for *are* put *is.* p. 95. l. 6. add *distinctly* after *not.* p. 105. l. 13. add *hung* before *unto.* p. 131. l. 19. after *wound* add *and.* p. 142. l. 11. for *up* say *upon.* p. 143. l. 15. dele *s* in *ravages.* p. 152. l. 5. for *shews* write *shew.* p. 181. l. 1. for *foot* say *feet.*

CASES

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C A S E S  
A N D  
R E M A R K S  
I N  
S U R G E R Y.

---

A case of a fractured scull in an old  
man.

*March* the 19th, 1749.

**M.** H. of T. a robust labouring man,  
aged sixty one, received a blow  
upon his head, with the end of a  
rafter; he instantly fell down deprived of  
sense and motion, and was carried home  
as a dead man, but discovered signs of life  
soon after: a violent *Ecchymosis* appeared,  
without any breach of the skin; upon  
B scalp-



## 2 CASES and REMARKS

scalping the same day, a very extensive fracture was discovered, with a great comminution and depression of the superior part of the right parietal bone: as soon as the hæmorrhage was restrained, the trepan was applied; it appeared necessary to make six perforations, in order to remove the fragments and depressed pieces of the *Cranium* then in view; after their removal we observed a separation of the *Dura Mater* from the *Cranium* much beyond the perforations.

AFTER the operation the patient was dressed as usual in such cases; was let blood frequently and kept to a strict regimen, laxatives being occasionally administered. He recovered his senses perfectly in about ten days; the wound had a kind aspect, and the symptomatic fever abated, which gave us great hopes of his recovery.

As the digestion advanced we observed a farther separation of the *Dura Mater* from the *Cranium*, at the superior and most concave part of the parietal bone, which continued as far as the inferior and de-  
pending



pending point, where there was a lodgment of matter at every dressing: the discharge seemed now more than a well-conditioned wound of that apparent size ought to produce, his pulse became quicker, with great restlessness, and soon after he fell into a *Stupor*, as at first.

THESE threatening symptoms returning, and growing worse every hour, we were reduced to a great difficulty to know how to act with the greatest probability of relieving our patient, but upon observing where most matter proceeded from, at every dressing, underneath the *Cranium*, at length we resolved to remove another portion of the scalp, beginning at the superior part, describing the segment of a circle towards the *Occiput*, and so coming round to the most inferior part of the first incision. This discovered to us at the most depending part, a triangular sharp-pointed fragment of the *Cranium*, struck into, if not quite through the *Dura Mater*, whence the matter had issued at every dressing for three or four days.

#### 4 CASES and REMARKS

UNDER these circumstances we thought it most adviseable to remove the whole arch of bone, from which the *Dura Mater* was detached, and this being impracticable with the head-saw, was effected by seven perforations of the trepan, on the 1st of April. After this operation, he grew immediately better, and every bad symptom gradually vanished.

IN the beginning of July, he was in a condition to walk two miles to be dressed, but it was more than a year before the cicatrice was perfected; and, even to this day, vesicles now and then arise, break, discharge a little, and then heal with very little trouble.

WHAT substitutes the loss of the *Cranium* is not entirely ossified; in a young subject probably it would have acquired such a degree of hardness as constitutes bone.

IN order to guard the brain against external injuries, he wears a very thin iron plate;

plate; and has followed his ordinary employment several years, without any considerable inconvenience.

PLATE I. exhibits a view of this fracture.

B 3

PLATE



#### 4 CASES and REMARKS

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B 3

PLATE

## PLATE I.

A. A. A. The extent of the first operation done *March* the 28th.

B. B. B. The extent of the second operation done *April* the 1st.

C. The point of the triangular piece of bone, which was struck into the *Dura Mater*, and discovered upon the second operation.



# An uncommon case of a fracture of the scull.

June the 24th, 1749.

**M**R. J. E. of T. aged about thirty, came to my house when I happened to be from home, and asked a gentleman who lived with me, to dress a small wound which he had received in the middle of his forehead, without saying how it happened; and a plaster was accordingly applied, without examining the wound, it appearing so very slight.

I WAS called to him three days after, and found him in a *Stupor*, attended with other threatening symptoms. Upon examining the wound, which was indeed very trifling in its external appearance, my probe passed, without any resistance, into the brain more than two inches, at the extremity of which, I was sensible of some solid body, and took it to be a fragment of the internal table of the scull, after having been informed that the accident happened, by the breech-pin of a gun, when

## 8 CASES and REMARKS

the barrel flew out of the stock upon discharging it.

I SCALPED him, stopped the hæmorrhage with the needle and ligature, and trepanned him immediately, making two perforations adjoining, not being able to extract the fragments of the bone, which were drove into the brain, through one: the diameter of the fracture of the external table was of no larger extent than the tail of the breech-pin; but one of the fragments of the internal table was almost as broad as a shilling.

THE *Stupor*, &c. went off soon after the operation, and he recovered his senses perfectly: though some portion of the brain was discharged at every dressing, the symptoms continued so favorable until the eighteenth day, that I began to be flattered with hopes of his recovery, but the *Stupor*, &c. returned, and he died the next day.

I COULD not obtain leave to open the scull after the death of the patient, to examine the brain, &c.

A fracture upon the *Os Frontis*.

*August the 3d, 1754.*

**T**HE wife of T. H. of H. aged about fifty, received this accident by a stone thrown with great force; the wound though inconsiderable was immediately stitched, and the case in all respects treated contrary to the rules of surgery.

I WAS called to her about a week after, and found an erysipelatous tumor had seized her head, face and neck, to the greatest degree I ever saw; those parts were as much swelled as in the most confluent kind of small-pox, the fever ran high, she was delirious, breathed very short, and indeed I thought could not have lived until the next day. I discovered a fracture with my probe, which easily passed a good way round about upon the scull; I made a longitudinal incision, but did not venture to remove the scalp under these circumstances, to inform myself of the nature and extent of the fracture. As yet no evacua-

tions



## 10 CASES and REMARKS

tions had been made. Repeated bleeding, lenient purgatives, nitrous medicines, &c. gave her some relief in a few days, beyond expectation; then I removed a sufficient portion of the scalp, to bring the fracture in view, applied the trepan, and found much extravasated blood upon the *Dura Mater*. It was a long time before she appeared out of danger, and was recovered with the utmost difficulty.

In a single perforation of the scull in trepanning, I have often found the plate of lead, described and strongly recommended by *Belloste* in his *Hospital-Surgeon*, of signal service in keeping the *Dura Mater* sufficiently depressed; by which the growth of fungous flesh from thence, through the perforation, will be easily prevented, and the discharge of any kind of matter facilitated, that may happen to be lodged between the scull and that membrane: I never saw any inconvenience from the use of it, but dreadful consequences may justly be apprehended from cutting off fungus, or destroying it with escharotics in these cases. By a piece of card laid over the ears of the plate, raised a little above the superficies of the scull, the pressure may be regulated to a just degree with a compress and the common bandage; or strips of common plaster applied crucially over the wound, which are best without any other bandage farther than to contain the dressings.

The first time that I performed this operation, I found the same inconvenience, which I suppose put *Belloste* upon inventing this plate, and used it several times without knowing it had been used by any surgeon before. In this operation I always used that kind of trepan called the trephine.

A case in which the trepan was applied to the occipital bone, with success.

**T**HE Reverend Mr. Baker of Hedenham, a very worthy Divine, in the fifty ninth year of his age, of a robust constitution, by a fall from his horse running away with him, *July* the 11th, 1757, received one large and extensive fissure, in a right line downwards, from near the superior angle of the occipital bone, and another as small as 'an hair, diverging at an acute angle about an inch from the top of the large one, on the left side of it, extending almost to the lambdoidal future.

HE was taken up speechless and senseless; the *Stupor* went off, in a great measure, upon scalping and plentiful bleeding; a fever soon followed attended with delirious symptoms at times, with an appearance of the intellectual faculties being much impaired though not entirely destroyed.

MANY

## 12 CASES and REMARKS

MANY circumstances concurred to delay the use of the trepan until the eleventh day after the accident, when it being unanimously agreed upon in consultation, by Dr. Bennet of Norwich, Messrs. Cooper, Manning and Lewis, of Bungay in Suffolk, Surgeons, with myself, and consented to then, by the persons nearly concerned, a single perforation of the bone was made, taking in a small part of the capillary fissure, without any ill accident attending the operation: we bore in mind this excellent maxim in surgery, *Festina lente*, and examined the *Sulcus* frequently with a probe or quill, to observe when and where the saw had cut through, and when the piece was moveable, holding by one third or fourth of its circumference, we thought it most adviseable to break it up with the *Elevator*; the *Dura Mater* then appeared highly inflamed, looking of a dusky red, much like a lump of coagulated blood. We afterwards, with small gouges, carving and engraving tools, enlarged the lower part of the fissure, where we perceived an issuing of a fetid gleet like what was discharged through the perforation, from between the *Dura Mater* and the *Cranium*:  
ap-



apprehending they had a communication, we should have looked upon it as justifiable practice to have made one or two perforations more with the trepan, towards that point, and should have proposed it had not the symptoms abated.

HE had a variety of symptoms both before and after the operation, shewing that the nervous system was greatly disordered, but we could not precisely determine what part of the *Encephalon* was most affected; before the operation he constantly complained of much pain upon the sides and fore part of his head, which was accompanied with a most intense degree of heat sensible to our touch; not evidently relieved by copious bleeding and the observance of an exact regimen. About six hours after the operation he gave signal proofs of the improvement of his reason, and the pain and heat of his head soon abated; still many threatening symptoms continued, and new ones arose, among the rest, a *Spasmus cynicus* on the left side, with a remarkable sinking and dulness of the right eye at the same time, both which proved of short duration.

AFTER

## 14 CASES and REMARKS

AFTER lenient purgatives, cooling remedies, soft diet and very plentiful bleeding, it was thought proper, on account of feverish symptoms which encreased periodically, and a black slough upon the *Dura Mater*, to give the *Bark*, joining *Rhubarb* with it to prevent costiveness.

ABOUT a fortnight after the operation, we began to conceive some hopes of his recovery; now, *October* the 6th, the wound is contracted into the compass of a fontanel, and kept open at the bottom as such; his intellects are perfect, he is able to take the air in his chariot, and his health is daily improving.

WE wanted circumstantial and well-warranted precedents to enforce the application of the trepan, and satisfy all parties concerned, of the propriety and necessity of it upon the occipital bone. It is to be wished that writers of approved character, who have treated this subject, had farther considered a point of so much importance to surgery; for the *Dura Mater* may be so injured, that though the  
Cere-

*Cerebellum* has received no immediate hurt, yet, without trepanning, the patient must inevitably perish: and this appearing to be the state of the case before us, had the hazard of doing it been much greater, we should have thought ourselves justified in the practice.

THE objections which have been made against it are, the great difficulty of perforating the bone on account of its unequal thickness, the danger of wounding the *Cerebellum*, and of opening a *Sinus*. Should the latter happen we have instances, where it has not proved mortal; and upon a strict examination of the bone, we believe, it will appear that few parts of it have such an inequality, in the circular compass of the saw, as to be more than a little thicker on one side than the other; from which considerations and the *Cerebellum* and *Sinuses* being well defended, by so thick a membrane as the *Dura Mater*, we are encouraged to hope that a cautious operator may succeed without injuring either; but he should be well acquainted with the structure of the bone and the respective situation of the subjacent parts,  
pro-



## 16 CASES and REMARKS

proceeding with the utmost circumspection and prudence, where the practice may not yet be thought sufficiently authorized.

Since these sheets were sent to the press, I have received an account from Mr. *Cooper*, that the wound is healed, and that Mr. *Baker* has recovered a good state of health.

A case

A *Species* of tumor called by the common people the *Mumps*.

EARLY in the spring, after the hard winter in 1739, the severest in the memory of man, this disease appeared, which I had never seen before, nor read any description of.

IT began with a slight fever, the face and throat swelled soon after, looking of a little deeper color than a damask-rose, but the tumor seldom extended so far as the eyes; it was chiefly external, and some times in a few days it increased to such a prodigious size, as to obliterate the features, and put the patient out of the knowledge of his most intimate acquaintance; yet that quick and extraordinary distention of the parts was in general attended with but little pain.

THE disease was chiefly among children, and young persons of the poorer sort. The general antiphlogistic method

C

suc-

18 CASES and REMARKS

succeeded very well; the disease was rarely mortal, and seldom terminated in an abscess, but when that happened it healed kindly by the common treatment.

IN five or six cases, in which I was concerned, the tumor in the face, &c. subsided in three or four days, and was from thence immediately translated to the testicles, but this circumstance required no alteration in the general method of cure.

IN some a thickness and hardness remained upon the parotid and maxillary glands after they were well in all other respects, which I found readily yielded to small doses of *Merc. dulc.* with gentle purging at proper intervals, keeping the affected parts moderately warm, and the patient to a suitable regimen, during the mercurial course. Sometimes I used a mild mercurial ointment.

THIS disease continued rife all the summer season, which was remarkably cold, dry and unfruitful, and did not intirely disappear until autumn 1741.



The summer after the disappearance of this disease, the malignant fore throat, which has been accurately described by three very learned physicians, first appeared, and continued more than ten years before its total disappearance, in that part of the kingdom where I then dwelt, about ten miles from the city of *Norwich*; but it was not equally violent during the whole of that time; it raged and was most mortal in the years 1745 and 1746. I attended a great many in it, and, from what I observed, there appeared to me some analogy between this disease and that among the horned cattle, which has been upwards of forty years in this island. *Aretæus*, taking notice of such a disease in the throat, expressly says, that it was preceded by a plague among that species of cattle.

A glandular tumor situated under the ear upon the articulation of the jaws, successfully extirpated.

*June the 1st, 1755.*

**M**R. J. B. of O. aged about thirty, a gentleman of a lively temper, but not of a good constitution, had this tumor gradually growing three or four years, from a very small beginning to a considerable size: its increasing exceedingly in the last ten or twelve months affected his mind very much, and made him more than ordinarily anxious about the removal of it.

WE were of opinion in consultation, that the operation was practicable. After the patient was duly prepared, I performed it, with greater ease to him, and less trouble to myself, than I expected; for, upon removing an oval piece of the teguments, and laying the glandular substance in view, I found it so disengaged from the circum-  
jacent

jacent parts, that I turned it out with my finger, having very little further use for the knife.

THE wound discharged during the cure a great quantity of saliva, especially upon mastication, which was avoided as much as possible, by the nature of the food he was allowed.

WHEN the wound was contracted into a narrow compass, I directed a strong elastic steel machine, resembling that which is made use of to keep the wig close to the ears, with a soft pad to press upon the aperture of the salival duct, and rest upon the opposite temple; by which, and seldom dressing, with lint moistened in *Alcohol* and a common plaster, it was soon perfectly healed.

THE Machine, as described in plate 2. fig. 1. was kept in its proper position, with a ribband passing behind the head, from one branch of it to the other, and another ribband affixed to that behind the head, in the middle, and to the machine on the top of the head.



A glandular tumor extirpated, which had been gradually growing more than twenty years to the circumference of fourteen inches, extending from the root of the ear unto the cheek, and far down the neck.

**I**N the beginning of *June* 1757, Mrs. B. of *A.* about forty five years of age, and healthy in all other respects, first asked my advice in this case; afterwards, in a consultation of a Physician and four Surgeons, besides myself, it was unanimously agreed, from the threatening aspect of the tumor, that there was now no time to lose; and that the operation was adviseable, without any farther delay, though the season was unfavorable on account of the excessive heat of the weather.

THESE Gentlemen were present at the operation, *July* the 11th; the tumor required to be dissected off with great caution

tion to avoid the blood vessels lying beneath it; not one was opened of any dangerous consequence, nor did the division of the salival duct prove any obstacle to the healing of the wound, by the usual treatment.

WE examined the tumor after it was extirpated; the glandular substance of it was in a scirrhus state, and in the superior part, immediately under the skin, which was of a dusky red color, and ready to burst, we found about a quarter of a pint of a blackish, oily fluid, where we had observed a fluctuation before the operation.

It may not be amiss to observe, that when we may reasonably suppose we have effectually stopped the hæmorrhage, by ligatures, or otherwise, after any operation, wherein many considerable blood-vessels must unavoidably be divided, it will even then be prudent to wait a little while (and until the pulse rises, if the patient happens to be faint) before we finish the dressing of the wound, lest any retracted vessel, which may have escaped our notice, should bleed soon after: this accident has often happened through that inattention, when it will occasion the more trouble, besides alarming the patient and by-standers to our prejudice.

## 24 CASES and REMARKS

A violent extension and contusion upon the muscles of the neck, attended with uncommon consequences.

*May the 3d, 1755.*

THE daughter of *H. L.* of *S.* was thrown backwards off an horse, and received an extension and contusion upon the muscles serving to draw the head backwards. When she was brought to me, her chin was fallen upon her breast, and from the friction, by an involuntary and constant vibrating motion, the skin was fretted off both these parts, which, with the pain she suffered upon the posterior part of her neck, made her life very uncomfortable.

VARIOUS applications and bandages were tried for two years to no purpose. I gave directions for making the machine, in plate 2. fig. 2. by the use of which alone the relaxed parts recovered their tone, and she



she was perfectly cured in six months. By the same means, I have since cured a similar case of a year's standing.

A machine of this kind, with a branch to pass up on each side of the head, may be useful to keep the head and neck in their natural direction, after the operation for the wry-neck, and perhaps answer the end better than the common bandage used upon that occasion; but I cannot recommend it with certainty, having never had an opportunity of experiencing it in that case: how far it might contribute to the cure of that disorder, or give relief without the operation, may be worth considering and trying.

PLATE

PLATE II.

*a. a.* The fixed points to rest upon the top of the shoulders.

*b.* The branch to pass up the side of the head, and bear gently against it to keep it steady.

*c.* The branch to come forwards for the chin to rest upon, having a soft concave pad annexed to it, moveable with a screw to raise the head gradually.

*d.* The bow to be placed behind the neck.

*e. e.* The straps of leather to pass from the shoulders, and hang unto the pins

*f. f.*

A great number of large strumous glands situated in the *Axilla*, and underneath the *Pectoral Muscle*, successfully extirpated; and an Ophthalmia cured.

Nov. the 8th, 1750.

THE wife of H. L. of T. twenty five years of age, first perceived a small, indolent, moveable tumor in the right *Axilla*, between five and six years ago, which grew gradually in two years to the size of a turkey's egg; another appeared then, immediately beneath the clavicle, and in six months acquired the bigness of a large walnut: these tumors increased by little and little, and more glands became obstructed and swelled. About five months ago inflammations seized both her eyes, soon depriving her of the sight of one of them, and with the other she was scarce able to guide herself.

HER



HER parents were healthy, and before the appearance of the tumor in the *Axilla* she had a good state of health, but after that was grievously afflicted with pain in her stomach, and heat in her bowels, accompanied with an obstinate costiveness; for which she found but little relief, by a great variety of medicines prescribed by a very judicious practitioner.

IN this most deplorable condition she fell under my care, with the whole *Axilla* full of distempered glands, beginning to have a cancerous appearance; and a chain of them was continued from thence near the clavicle quite to the neck, daily increasing. After deliberately considering the case, I thought nothing could be done to any purpose, unless the diseased glands could be entirely extirpated: we had a consultation immediately, consisting of a physician and four surgeons of eminence, who readily concurred in my opinion; but we were all of us apprehensive, that if these glands were removed, even then, it was very doubtful what would be the event of the operation; for, if the disease happened  
to

to be stopped here, the same cause still existing, probably would produce the same effect, and attack some other part internal or external, and frustrate our endeavours.

THESE indeed were very discouraging circumstances, but the patient after hearing all that passed in our consultation, as we thought it right she should in such an hazardous case, in order to chuse for herself; said, with great courage and resolution, she would submit to the operation, desiring to have it done whenever it should be thought proper.

NOVEMBER the 16th, I performed the operation in the presence of those gentlemen, beginning in the *Axilla*, whence I dissected all the glands, opening but one blood vessel of any consequence, which I easily commanded with the needle and ligature, though it lay deep in the *Axilla*: I filled the wound then with dry lint, and got one of my assistants to support a compress upon it with his hand. We now found it expedient to refresh our patient with a little wine, and allow her a short respite;

## 30 CASES and REMARKS

spite; after which, she readily submitting, I made an incision from the superior part of the other glands, in a curved line, to the angle of the *Axilla*, where I left off, intending to meet it at the same point with another, in order to remove an oval piece of the teguments along with the affected glands; but instead of laying them bare, as we expected, only the *Pectoral Muscle* came in view, which circumstance made us hesitate a moment; having, however, proceeded thus far, it was unanimously agreed to go on: upon this determination, I divided the muscle in an oblique direction as far as was thought necessary, and the glands being pretty much disengaged from the subjacent parts, were removed without any difficulty or effusion of blood worth regarding. Thus ended, very happily, one of the most tedious and dangerous operations we had any of us ever seen. There are but few difficulties that occur in operations, but what we may be able to surmount, if we can preserve a calmness and presence of mind.

THE number of glands taken out of the *Axilla* was nineteen of various sizes, some



some were like large potatoes, others no larger than filberts; and eight were situated under the *Pectoral Muscle*, which differed also in their size.

AFTER dressing with dry lint and digestive in the common manner, I applied soft compresses of cloth spread thick with *Unguent. e Florib. Sambuci*, and the roller no straiter than just to confine the dressings. After every capital operation we should give our utmost attention to the application of the compresses and bandage, that they may sit, and be left as easy as possible upon the tender parts; as long continued pain must have destructive consequences; from which considerations, a little warm *Ol. Olivar. optim.* should now and then be poured in, after gently raising the compresses and bandage in convenient places.

THE symptoms following the operation were very favorable, the wound digested kindly and was perfectly cicatrized in eight weeks. When she was in a condition to bear alteratives, I had recourse to them, particularly to small doses of *Merc. dulc.*

Within

### 32 CASES and REMARKS

Within about three months she recovered the perfect sight of one eye, and the inflammation did not continue upon the other, but the *Cornea* was too much thickened to transmit the visual rays. After the wound was healed, I made her first a seton in her neck, and then super-scapulary fontinels, which she kept open about two years. For a long time after the wound was perfectly cicatrized, she drank seawater, and took *Æthiop. min.* and *Antimon. crud.*

HER happy deliverance from this impending danger, and the enjoyment of good health ever since, have amply rewarded her uncommon fortitude; and me for my care of her, she being an object of charity, and supported, during the cure, by a gentleman whose great delight is in doing good.

A can-

A cancerous breast, of an enormous size, extirpated.

Sept. the 11th, 1755.

IN a consultation held on the case of Mrs. *D.* of *P.* a remarkably corpulent woman, yet very active and temperate, it was unanimously agreed, that she had no other chance for relief but by losing her breast, which was about a yard in circumference, not yet fixed, but threatening immediate ulceration.

UNDER these discouraging circumstances we could not urge the operation, but the week following, at her own desire, I performed it, Mr. *Layman* an eminent surgeon, and the surgeon whose patient she had long been, assisting me: the operation did not prove tedious considering the magnitude of the breast, nor did any thing material occur in it.

THE skin of the whole breast was affected to such a degree, that we durst not  
D at-



### 34 CASES and REMARKS

attempt to preserve so much of it as we would willingly have done ; and the *Membrana adiposa* was near five inches thick towards the *Axilla*. The wound healed very kindly, it was perfectly cicatrized in a little more than three months, by the great care of the surgeon whose patient she had been before ; she had as good health as usual for about a year after.

WE examined the principal distempered gland, suspended in a bloody fluid, which appeared of a lymphatic nature, by inspissating with a moderate degree of heat ; the *Cyst* which contained the fluid, was formed of the *Capsula* of the gland, the gland itself remaining in a scirrhus state, out of which an excrescence was grown, resembling the head of a collyflower, as represented in plate 3.

UPON cutting into the body of the gland, which was like the gizzard of a turkey, we observed some vessels varicous, others ruptured, and many *Coagulum*s of blood, such, I suppose, as the Ancients called *Atra Bilis*, and looked upon to be the efficient cause of *Cancers*.

DECEM-

DECEMBER the 28th, 1756, I was again desired to meet her surgeon, on account of an indolent tumor, extending uniformly over the whole *Scapula* on the other side, and measuring three feet and eight inches in circumference, without the breast or glands in the *Axilla* being the least affected, yet I looked upon it to be an appearance of the old leaven, therefore I advised no application, only to have it well supported, and that all possible care should be taken to prevent its breaking.

SHE died *April* the 2d, 1757. Before her death the tumor was much increased; she lived but a short time after it broke, and that in the utmost misery, without any ease but what was procured by opiates: the discharge was immensely great, and the matter not only excessively offensive in smell, but the *Effluvia* proceeding from it were so virulent, as to affect those who constantly attended her. One of the persons who bore her to the grave told me, that the stench made him very sick, and that he was immediately seized with a flux, which soon relieved him.

### 36 CASES and REMARKS, &c.

THE cicatrice where the breast was extirpated, continued perfectly smooth and well to her death, without the least appearance of the disease upon the circumjacent parts.

Many years ago Mr. *Layman* and I were present when Mr. *Amyas*, late of *Norwich*, extirpated a cancerous breast, in which we found a considerable quantity of gravel, and many small stones, in the center of the glands.

PLATE



CHURCH AND PARISH

THE CHURCH

THE CHURCH OF THE HOLY TRINITY

THE CHURCH OF THE HOLY TRINITY

THE CHURCH OF THE HOLY TRINITY

THE CHURCH OF THE HOLY TRINITY

THE CHURCH OF THE HOLY TRINITY

THE CHURCH OF THE HOLY TRINITY

THE CHURCH

PLATE III.

The representation of a cancerous gland.

*a. a. a. a.* The common teguments.

*b. b. b. b.* The capsula of the gland which formed the cyst containing the bloody fluid.

*c. c. c.* The colly-flower-like excrescence, which sprouted from the body of the gland.

*d.* The *Fimbria* which laid loose upon the gland, but was attached to the excrescence.

*e.* The incision into the body of the gland, which discovered the varicous and ruptured vessels, and the coagulums of blood,

A cancerous disease which arose from drinking some liquor impregnated with the matter that issued from an ulcerated cancer.

IN the year 1752, I was desired to visit a person of great virtue and veracity in *Norwich*, near sixty years of age, who had a cancerous tumor upon her breast, and the glands in the *Axilla* much affected, causing a large œdematous swelling of the whole arm, quite through to the ends of her fingers.

THE account she gave me of her very singular case, confirmed by her relations, was this: that her parents were healthy, and that when she was a child about three years old, she went with her mother to visit a friend, who had an ulcerated cancer upon her breast, which had just been dressed, and some of the liquor with which it had been washed, standing in a tea-cup upon the table, she drank a little of it: an eating ulcer seized her tongue and one side



## 40 CASES and REMARKS

of her mouth about a fortnight after, making dismal ravage of the cheek, as well on the outside as the inside: she was put under the care of a surgeon of great character in *London* who found much difficulty in stopping the progress of the disease here. More than twenty years after that, the leaven shewed itself upon her thigh, where she had received a contusion some years before, and an abscess was formed near the bone, towards the articulation of the hip, which was also cured with the utmost difficulty, by a very able surgeon at *Norwich*. She had a tolerable good state of health after this, for about fifteen years, and then discovered a small scirrhus knot in her breast, remaining indolent and moveable, increasing but slowly, untill the time of the cessation of the menstrual discharge; it began then to increase very considerably, and in a few years occupied the whole breast, with all the glands in the *Axilla* at last, but it remained occult to her death; a few months before which, her arm became affected as already described,

An

An abscess in the *Pleura* opened and cured.

**M**R. R. N. of M. aged about forty five, who had by intemperance injured a good constitution, was seized in the beginning of *September* 1755 with a pleurisy, for which he was bled and treated as regularly, as an untractable patient would admit of, but all to little purpose. Respiration became extremely difficult, attended with a violent cough and continual fever; he grew daily worse in all respects, and his life appeared to be in the most imminent danger; yet, not being apprehensive of the danger he was in, when urged by his friends to do what was proper, he rejected their persuasions, and shewed an invincible obstinacy; but, at length, his breathing becoming so difficult as to threaten immediate suffocation, I was called to him in great haste, *October* the 25th.

BESIDES these symptoms, I found him greatly emaciated. After strict inquiry,  
and

## 42 CASES and REMARKS

and obtaining all the information I could from him, and those who attended him, I carefully examined the affected side, when, comparing it with the other, it appeared to me rather thicker, especially where he complained of a fixed pain, which was between the fifth and sixth rib, about the middle from the *Sternum* to the *Spine*, upon which part I understood he had formerly received a blow, though he had no complaint in consequence of it, worth taking notice of, until he was attacked with this disease.

AFTER having considered all these circumstances, I was inclined to think an abscess was formed in the *Pleura*, and that the matter would make its way into the cavity of the *Thorax*, if it had not already done so, which determined me to propose the operation directed in the *Empyema*, as the only means of relieving him; he was very much averse to it, but by reasoning with him, and shewing the improbability there was of affording him relief in any other manner, joined to the earnest entreaty of his relations and friends, he did at last comply with what I proposed.

WITH-



WITHOUT any farther delay, I then performed the operation, directly upon the part where he complained of pain, and discharged a large quantity of fetid matter. The next day, in order to keep the aperture open, and allow a free Exit to the matter in the intervals of dressing, I introduced a flat hollow tent dipped into *Belloste's compound Samaritan Balsam*, and applied over it a piece of common plaster, with a hole corresponding to the mouth of the tent, and soft compresses, a laced flannel bandage and scapulary: the tent was made of a leaden *Canula* covered with a piece of plaster, with ears of a sufficient length and breadth to rest steadily upon the rib above and below, and confined to the part with snips of plaster: this method of dressing I have often found answers the purpose perfectly well in such cases.

UPON the evacuation of the matter he was immediately relieved; the pain and cough ceased, he breathed freely in every position, in a short time the fever left him, and he recovered a good appetite.

THE

#### 44. CASES and REMARKS

THE discharge was very large for about ten days, then became moderate; when the matter was grown well-conditioned, and the quantity of it much lessened, I left out the tent, and carefully touched the circumference of the wound with the *Caust. commun. fort.* dressing for the future superficially.

IN about six weeks the wound was perfectly healed, and he recovered a good state of health soon after. Ass's milk, Balsamics, &c. were prescribed during the cure.

When we have reason to suspect that an abscess may be forming in the *Pleura*, we cannot be too watchful, as it is of the utmost consequence to discover and open it, before it bursts and discharges the matter into the cavity of the *Thorax*. What *Mr. Sharp in his Critical Inquiry*, and *Monfr. Le Dran in his Operations and Observations in Surgery*, have wrote upon this subject, with the different kinds of *Empyema* and Abscesses in the *Thorax* deserve to be read with the greatest attention. *Bonetus* in his *Anatomia practica* has also a collection of cases to the same purpose well worth reading.

An

An incysted tumor situated between the muscles of the *Abdomen* and the *Peritonæum*.

**M**R. C. M. of S. a man of more than ordinary vigor, aged about thirty five, received some blows upon the *Abdomen*, in a boxing match, which were not attended seemingly with any bad consequences farther than slight transient pains, during the space of four or five years; after this period, however, a circumscribed tumor appeared three or four inches round the navel, accompanied with a constant obtuse pain: in this state it remained several years, making but a very slow progress, and those whose advice he took were very dubious of its nature.

ABOUT ten years were elapsed when he came to ask my opinion, *October* the 12th, 1741. After well considering the detail he gave me of his case from the beginning, and strictly examining the tumor, which was increased in the last six months



## 46 CASES and REMARKS

months to a great size, extending most towards the *Inguen*, I was inclined to think it of the incysted and lymphatic kind. His health had been greatly impaired; the tumor was prominent and much inflamed at the navel, the matter seemed to have made its way through the *Cyst*, and was just ready to break through the skin.

I ATTENDED him as soon as he returned home, and upon attempting to rise from his seat when I entered the room, the skin broke and discharged a large quantity of a brown lymphatic fluid. As the matter had made its own way out, he would not suffer me to make an opening at the bottom, either by incision or caustic, as I proposed and urged, nor yet to remove the thin teguments at the navel by knife or scissars, to procure a freer *Exit* to the matter; but through much persuasion he did allow me to touch those parts, with a piece of *Caust. commun. fort.* I found the aperture plugg'd up the next day with a stiff gelatinous substance, which I extracted; and, after pushing back the *Cyst*, at least three pints of the same kind of fluid issued out: the dressing was after

the usual manner, and when the *Eschar* fell off, I touched the parts again with the *Caustic*, as much as an ungovernable patient would permit, aiming to open, by this means, an ample passage for the *Cyst*.

THUS I proceeded, and on *November* the 3d, when I took off the dressings, I found the *Cyst*, like an inflated intestine, strangled in the opening, still too narrow to admit of an easy extraction, yet he would not give me leave to enlarge it by incision, but, with great care and trouble, I extracted it whole, which was very putrid, and had an excessively offensive, cadaverous smell: a few days after I extracted another intire *Cyst* of a smaller size.

THERE was now an immoderate discharge of a fetid matter, highly acrimonious and excoriating, which turned silver in a minute's time like copper; the patient had a cough, was hectic, and daily lost flesh and strength, yet, as the *Cysts* were come away, he thought he should soon be cured, and all the arguments I could use were not prevalent enough to convince him how much still depended upon making an open-

## 48 CASES and REMARKS

opening at the bottom of the *Sinus*, which was very capacious. Under these circumstances I was greatly embarrassed, and dreading the worst consequences would attend the constant absorption of putrid matter into the blood, I insisted upon a consultation, in hopes that the result of it would influence him to submit to what appeared to me absolutely necessary to be speedily done.

A VERY eminent Physician and Surgeon were consulted: after examining the part and considering the condition the patient was in, they both peremptorily told him, he must submit to a depending opening being made, as I had proposed, if he would give himself a chance for his life. The thickness of the parts, I believe, was about two inches, through which an opening was agreed upon to be made by a *Cautic*: I foresaw the difficulty that would attend effecting it by the common manner of applying the *Cautic*, therefore after moistening the skin with a few drops of warm water, I began by rubbing it gently with a piece of pipe-form *Caut. commun. fort.* having thus mortified the skin and

Mem-



*Membrana adiposa*, I divided the *Eschar* with a lancet immediately, laying the muscle in view, and thrusting the point of the lancet a little way into it; I then took a pointed piece of the *Caustic*, and by turning and pushing it with a moderate force, wrought into the bottom of the *Sinus* as the probe directed me, in less than half an hour; through this opening I drew a seton dipped into *Belloste's compound Samaritan Balsam*, and soon gained a free discharge of the matter at this depending part, immediately above the ring of the muscles on the right side.

WITHIN a week or ten days there was a visible amendment in his health, and the matter grew better conditioned. When the *Eschar* was digested off I discontinued the seton, introduced a leaden *Canula*, through which the matter passed uninterrupted, and ordered a flannel body-piece should be laced on, with an easy compress stitched to it, to rest upon the superior part of the *Sinus*. When the matter appeared well conditioned, and in a small quantity, I left out the *Canula* and

E

dressed

50 CASES and REMARKS

ressed superficially, only with dry lint and a common plaster.

By this treatment, with a few medicines, and drinking afs's milk, he was perfectly cured in about four months. He lived many years after, and often told me that he enjoyed as good health as in the former part of his life, without finding any considerable diminution of his strength; but died at last in consequence of a mad frolick.

From what I have observed, in a variety of instances, I have reason to believe the application of the *Cauſt. comun. fort.* in this manner, will be found most eligible, as it acts much quicker, and the *Eſchar* can be made of the very dimensions we chuse.

*A Prolapsus Ani, &c.*

IN the year 1749, I was consulted in this case by a gentleman's wife, in whom the parts which suspend the *Anus* had been so relaxed for a long time, that she was not able to walk across the room without its prolapsing: I thought of the machine represented in pl. 4. which immediately answered the intention so well, as to enable her to follow her family affairs; it was not long before she could walk some miles, and ride on horseback with it, without any considerable inconvenience.

SHE had been grievously afflicted with the bleeding piles almost all her life, at length, from one of them, which was very large, an hæmorrhage ensued, and brought her into imminent danger: upon this occasion I was consulted in 1751, and was of opinion with her Physician and Surgeon, that nothing could be done with a prospect of relief, without taking it off;



## 52 CASES and REMARKS

the operation was forthwith performed, which in all probability saved her life, as her solids were greatly relaxed, and her blood extremely impoverished by the long continuance of the bleeding.

SHE was in general very costive, and whatever medicines were prescribed to remedy that inconvenience soon lost their effect: *Sea-water* was at last tried, which agreed with her; it answered the intention perfectly well, and does so to this day, in the same small quantity as at first. Though she has now drank it more than seven years.

As soon as she could bear the machine or truss she wore it again, and cannot now go without it: she is not the only person who has found relief by the same means.

SHE wears the bow upon the upper part of her hips, the flat upright part under her stays up the spine, and fixes the band at the bottom of the *Abdomen*: in this manner she finds that it keeps well fixed upon the part, and that upon any  
occa-

occasion she can easily slip it aside, and adjust it again, now she is well used to the management of it. The dimensions of it for her, who is of a common size, are 15 inches long, properly turned, and made rounding where it passes between the hips; the flat part of it, made a little tapering, is about two inches broad at the top; the pad is of an oval form, about an inch broad, well stuffed and prominent in the middle; the bow is 18 inches long and one broad, thin and very elastic and so curved as to fit easy upon the parts; the band is 20 inches long; the whole is covered with soft oiled leather, and stuffed where necessary for the patient's ease.

Additions or alterations in this machine may be made occasionally, at the discretion of the Surgeon; perhaps another bow to pass over the loins; a suspensory from the shoulders; or a strap between the thighs coming from the waste-band and hanging unto a hook upon the pad, &c. may be found necessary to fix it steadily and well in some cases. Great care is required in taking the measure, that it may be exactly adapted to the parts, and have an easy and regular bearing every where: the best way of measuring for this, as well as for common trusses, is with a wire, which can be turned every way, and will stand to the form of the parts.

## A singular case of the stone.

*J.* *H.* of *P.* aged 48, had been subject to the stone from his infancy; was searched and should have been cut at eight years of age: his constitution was naturally robust, but he had much impaired it by drinking, and living a very intemperate life.

THE operation was performed on *June* the 8th 1746, by Mr. *Harmer*, late of *Norwich*, an experienced *Litbotomist*, after *Marianus's* method. It was found impracticable to extract the stone through a wound of the common size, which he had made, or break it by the force of the *Forceps*, therefore, at his desire, I divided the parts occasionally as he gently extracted it.

THERE was no reason to expect the wound would ever be perfectly healed after the extraction of a stone of that size, but he had no symptoms that threatened his life in consequence of the operation: he



lived until *April* 1751, walking abroad until within a few days of his death.

THE stone is represented in pl. 5. fig. 1. it weighed near fifteen ounces, and, I believe, is the largest we have upon record, taken from a living subject. It was of a hard texture, and had a substance like *Spar*, to a considerable thickness, upon many parts of its surface.

The *Gorget*, as improved by Mr. *Serjeant Hawkins*, obviates an accident which may happen in the operation when performed by the most skilful artist, but the cutting edge of it, for a very obvious reason, I think, should not extend above one third of its length; and it should have a small shoulder that it may enter with the greater facility. I have used it three times without any apparent inconvenience either in the operation or after it.

The first, was in a child of eight years old, who had a bad constitution, yet the wound was perfectly healed in nineteen days.

The second, was in one of eleven, who had a soft stone of three ounces weight, the external *Lamina* of which cracked in the *Forceps*, in many places, yet it was extracted without any of the pieces separating: two days after the operation he was sensible of an occasion to make urine, which he voided through the *Penis* with a pretty, full and strong stream; very little passed through the wound after that time, which was speedily healed.

The third, was in a subject of between eleven and twelve years of age, in which it appeared of very signal service to many able Surgeons present at the operation.

## 56 CASES and REMARKS

ration. This patient had symptoms of the stone soon after he was born; for many years the stone had constantly lain at the neck of the bladder, where it had caused an uncommon thickness and hardness of the parts, as far as we could feel with our fingers introduced into the *Anus*, and produced an ulcer, which daily discharged much matter through the *Penis*: the *Prepuce* was so contracted at the end that it would not admit the smallest sound; the matter, mixed with the urine, was continually stopping between the *Glans Penis* and the *Prepuce*, which excoriating and ulcerating these parts, made circumcision necessary before the operation for the stone; besides these unfavourable circumstances, he had a *Proidentia Ani* to a great degree always upon going to stool, and often at other times. From the condition of the neck of the bladder, and the stone being long bedded and firmly fixed there, I found great difficulty to introduce the *Gorget* notwithstanding its cutting. The stone broke into many fragments, being soft like sand and clay mixed together, still the operation succeeded happily and the wound was perfectly cured, but with great trouble and difficulty. In this case *Bougies* appeared very useful in keeping the natural passage open, by introducing them now and then, during the cure.

A case

A case in which sixteen stones were extracted out of the *Urethra* and Bladder. They are represented in Plate 5. Fig. 2.

THE person from whom these stones were taken was cut at four years of age, by Mr. *Donne* of *Dearham*, an expert *Lithotomist*, as well as a very able Surgeon; when the wound was almost cicatrized, the urine not having pass'd through it for near a week, as he was tumbling upon the bed, he fell astride upon the frame of the bedstead, by which accident the wound was broke open, the adjacent parts were violently contused, and the wound could never be perfectly healed afterwards.

TEN years after this he was again brought under Mr. *Donne's* care, and, upon strict examination, he discovered an hard body in the course of the *Urethra* from the *Scrotum* into the Bladder. These stones were easily extracted through a wound



## 58 CASES and REMARKS

wound of two or three inches long; all of them were contiguous, and bedded the one into the other; that which appears of an irregular oval figure at one end was lost in the *Scrotum*; the two at the other end, which were all that were found in the Bladder, much resembled the ball and socket of a bone, and at first sight seemed more of the texture of a bone than a stone; all the other were like alabaster in color, and of as fine or rather a finer polish. Various attempts were made to cure the wound but all in vain: the patient is now a stout strong man aged 24, and does not want health in any other respect.

I HAD the above narration, as well as the opportunity of examining the patient, when I was with Mr. *Donne* in November 1755, on account of his cutting a young gentleman for the stone, in whose case and in the operation, there was likewise some remarkable circumstances. It was observed that he used frequently to be seized with a spasmodic contraction in his bladder, and that his urine always ran from him then involuntarily. As soon as the incision

incision was made into the staff, the spasm forced out the urine, before the operator could introduce the gorget into the bladder, and upon introducing the *Forceps* he could not find the stone; after searching some time he withdrew them, felt with his finger and desired me and another Surgeon to do so; we could not feel any, but all of us were sensible of an unusual stricture, at the extremity of our fingers; after a little farther search in the common posture that he was in, we removed the ligatures, placed him in an upright sitting posture, and pressed strongly upon the *Abdomen*, which relaxed the stricture and brought the stone instantly down to the neck of the bladder; then it was easily extracted.

THIS patient was much emaciated and hectic, yet the symptoms after the operation were very favorable, and he soon recovered a better state of health.

A case

A case of the stone in a woman, attended with some uncommon circumstances.

**M**RS. T. of A. aged between forty and fifty years, after having been severely afflicted about ten years, and using various medicines to no purpose, had recourse to Mrs. *Stephens's* with no better effect, though she gave them a fair trial for eleven months. Growing daily worse she resolved to submit to the operation, if it should be thought adviseable, her constitution being much impaired, and having a constant discharge of purulent matter from the bladder.

*AUGUST* the 17th, 1740, she asked my advice, and after well considering all her complaints, I was of opinion it was right to extract the stone, though the event of the operation could not but be looked upon as very precarious; for by passing my finger up the *Vagina Uteri*, I could plainly discover it was a large one,  
the



the friction of which had caused an inflammation and ulceration in the bladder.

AFTER putting her in the posture for the operation, I intended to have proceeded according to the usual manner, by dilating the *Urethra*, and making an incision as should be found necessary to facilitate the extraction of the stone, but finding, with my finger, that it lay very favorably to be cut upon through the *Vagina Uteri*, now considerably dilated, I altered my original design, and, with the approbation of two experienced practitioners, cut upon it, and extracted it with very little pain to the patient, or trouble to myself, in comparison to what a stone of between three and four ounces weight must unavoidably have occasioned, by performing the operation after the common method.

THE symptoms after the operation were the most gentle; the ulceration of the bladder soon healed, by soft, balsamic injections, and she was perfectly cured in three weeks, without any defect of the retentive faculty remaining.

A case

A case of a complete *Hernia* attended with a mortification in an aged woman, perfectly cured.

THE wife of R. R. of B. aged about sixty years, naturally of a good, strong constitution, had a descent of the intestine, &c. *December* the 20th, 1752, to which she had been subject many years, without ever wearing a truss: the usual symptoms attending a strangulation of the intestine soon followed; an Apothecary was immediately sent for, who took her complaint for the colic and treated it accordingly three or four days; the symptoms growing daily worse, and she often vomiting excrementitious matter, he then looked upon it as the iliac passion, and had recourse to tobacco clysters, and then to *Argent. viv.* giving her, as he told me, lb. i β.

ON the 29th I was called to her, and found the teguments much inflamed and vesicated, with livid spots here and there interspersed; and the tumor having lost  
its

its renitence, I did not doubt of the intestine, &c. being in a mortified state: the *Abdomen* was greatly inflated, tense and painful; she frequently vomited excrements, could bear nothing in her stomach, had the hiccup and a weak, quick and intermitting pulse.

UNDER these most miserable circumstances, her relations and friends were come to take their last leave of her; indeed I thought death would have put an end to her misery in a few hours; all that appeared to me rational now to propose and attempt for the preservation of her life was, to open the part sufficiently, in order to remove the strangulation of the intestine, and evacuate the *Fæces*, though I must confess I could not expect the case would have ended more favorably, than by leaving an artificial *Anus* in the *Inguen*.

THIS proposition being approved by the patient and all persons concerned, I forthwith made an opening of between two and three inches long, through which there was an immediate discharge of ma-



## 64 CASES and REMARKS

ny pints of black, fluid, fermenting excrements, like what those who attended her observed she had vomited many days: upon this discharge the inflation of the *Abdomen* subsided, and she found instant relief. I fomented the parts with a common antiseptic *Fotus*, dressed them with a warm digestive, applying a warm cataplasm to them and all the *Abdomen*. It appeared to me adviseable, on account of the fæcal discharge, that she should be dressed every six hours: I directed the application of bladders of hot water to preserve a due degree of heat from dressing to dressing. I did not forget to advise the discretionary use of cordials, laxatives and clysters; and that she should, for some time, be nourished only with liquid diet, taken in small quantities and often.

AFTER having agreed with the Apothecary upon the method for him to pursue, I left her to his care, urging at the same time his assiduous attendance, as the event of the most dangerous cases often exceeds our expectations, desiring he would suffer nature to cast off the mortified sloughs, without using any violence to re-

move them. The next day he informed me the symptoms were favorable, that her diet did not offend her stomach, and that she had not vomited since the opening.

Two days after, I was desired to visit her again; I found her then sitting up in her chair, with a quick, strong pulse, and great flushing in her face: upon examining into the cause of these appearances, I discovered they arose from transgressing the rules prescribed in regard to diet; for notwithstanding the strictest injunctions were laid upon her and the nurse in that point, yet this day for dinner, she indulged her desire and craving appetite, with roasted chicken and strong beer, eating and drinking very plentifully. This transgression was very near subverting the fair hopes we began to have of her recovery; to prevent the ill consequences of it as much as possible, we had immediate recourse to bleeding, repeating it thrice in 24 hours, with other measures, to check the rising fever and guard against an inflammation again seizing the weak and tender intestines; but it was many days before the

F danger

## 66 CASES and REMARKS

danger was over, which she was evidently thrown into by this indiscretion.

THE *Fæces* began to be evacuated by the *Anus* on the third day after the opening, and they passed freely both ways until the beginning of *March*; the discharge of them gradually lessened at the wound as it contracted, which was perfectly healed, by the common treatment, soon after that time.

ON *February* the 4th I first observed some of the *Argent. viv.* in the wound, which she had taken on *December* the 24th, and which passed by that as well as by the *Anus* until the wound was perfectly healed; for many months afterwards, she saw some, now and then, divided into an infinite number of globules, which had lost their brightness, looking like lead long exposed to the air; and she generally was sensible of griping pains preceding the stools wherein she observed it.

SHE enjoys as good health as in the former part of her life, and is entirely free  
from



from the inconvenience she had many years before laboured under.

THE happy event of this threatening case may teach and encourage us, never to leave our patients in the utmost apparent danger and distress, without endeavouring to assist nature by all the prudent and rational measures we can think of.

F 2

A remark-

A remarkable scrotal *Hernia* in an infant about ten weeks old.

*November* the 3d, 1755.

**M**R. *Chaplin* an ingenious man, now in the Navy, desired me to visit this child with him.

HE was taken one evening with a fit of crying and straining to vomit, which continued with short intervals all night; in the morning the mother, who was a poor ignorant woman, perceiving a swelling from the *Inguen* down to the *Scrotum*, sent for an old woman, no wiser than herself, to advise with; they paid little regard to the prolapsed intestine, but rolled up the *Abdomen* tight, after their usual manner, which bandage obstructed the return of it, and produced the following terrible symptoms.

Two days after the child first complained he voided a bloody matter by the  
*Anus*,

*Anus*, which discharge, mix'd with a small quantity of *Fæces*, continued eight or nine days; then Mr. *Chaplin* was first called to him, and he found the *Scrotum* vastly swelled, tense and inflamed with the whole *Abdomen* much inflated: he ordered emollient and discutient fomentations, cataplasms, &c. with a proper bandage, which treatment mitigated the symptoms, though the child still vomited as soon as he had sucked, as he had all along done.

ABOUT a week after the *Scrotum* burst open, and the mortified intestine discharged the *Fæces* through two orifices, each of about half an inch diameter, the one at the superior and the other towards the inferior part, near two inches asunder, which were dressed superficially with digestive and plasters of *Cerat. album*: the first time I saw the child was a few days after the opening of the *Scrotum*.

THE discharge at the *Scrotum* instantly removed the inflation of the *Abdomen* and the vomiting; but for a week after, no *Fæces* passed by the *Anus*; then the preternatural evacuation of them decreased,



70 CASES and REMARKS

as they gradually resumed their natural course: the openings of the *Scrotum* healed up in about three weeks, but the inferior one broke open again, discharged *Fæces* three or four days, and finally closed: the intestine passed and repassed soon after, according to the position of the body, and the child was afterwards cured by a common truss.

A scro-

A scrotal *Hernia intestinalis* in which the operation was performed five days after the strangulation.

**B.** D. a farmer's servant, aged twenty one, had been afflicted with an *Hernia* from his infancy, without any means having been used to cure it.

ON *Tuesday* morning, *July* the 4th 1754, the intestine fell down as he was at work in the field, where he attempted for many hours to relieve himself as he used to do, but all in vain; then he returned home, still concealing his disease, as he had industriously done all his life; it was some days before he discovered what he ailed, and then all attempts to reduce the prolapsed intestine proved ineffectual.

LATE on the *Saturday* evening he was committed to my care; my endeavors to reduce the intestine being attended with no better success, I proposed the operation to him as the only means of saving his

F 4

life,

## 72 CASES and REMARKS

life, and, he readily consenting, I performed it early the next morning. The intestine was not mortified, though indeed it was much inflamed, yet the operation succeeded, and he was perfectly cured in five weeks. From this case it will not be amiss to observe, that the intestine may be longer strangulated without being mortified than is generally believed.

REPEATED bleeding, clysters, laxatives and nitrous medicines, with a thin cooling diet, taken frequently in a small quantity at a time, to avoid a distention of the tender intestines, greatly contributed to remove the inflammation which was upon the parts before the operation, and to prevent accidents in consequence of it.

THIS patient was near losing his life ten days after the operation, by the indiscretion and disobedience of the nurse, in allowing him such diet as I had absolutely forbidden, and omitting what I thought of the utmost importance for her to observe.

A.



As diet, with the manner of giving it, is so essentially necessary in the cure of diseases, we cannot be too watchful, in seeing that our patients are strictly conformable in this respect; and that the nurse does her duty in following directions, more especially in such a case as this, wherein the least error or omission may prove irretrievable, and of fatal consequence.

A case

## 74 CASES and REMARKS

A case of a similar nature to the last, in which the operation was omitted.

**A**N able Surgeon of my acquaintance was called to a vigorous young man, two days after his having a descent of the intestine; and in that condition he received a contusion upon the teguments of the *Scrotum*, by a fall from his horse.

AFTER various attempts to reduce the intestine he proposed the operation, and many of the faculty were assembled; the majority opposed it, other methods were tried, which proved fruitless, and the patient died eight days after.

I HAPPENED then to be at the Surgeon's house; he told me, with much concern, how he had been over-ruled, and that he thought a fair opportunity had been lost of saving the patient's life: whilst he was giving me this relation, news was brought of the patient's death,  
he

he desired me then to go with him, and examine the state of the parts; we found no mortification upon the intestine, which was fallen down without the *Omentum*.

WHAT probably misled the Gentlemen in the consultation was, the discoloration of the teguments of the *Scrotum*, arising from the contusion received by the fall.

The treatises wrote by Mr. *Pot* and Monfr. *Arnaud* upon *Ruptures*, attentively read and considered, will be found good guides to direct our practice in this important part of Surgery; and there are several remarkable cases upon this subject, which may occasionally be consulted in the *Mem. de l'Acad. Roy. de Chirurgie*.



An Hydrocele of the *Tunica vaginalis* taken for a scirrhus Testicle.

**A**N elderly Gentleman consulted me many years ago in this case, which had long been treated with mercurials both internally and externally, a method not likely to succeed had it been what it was supposed to be, but it appeared to me indisputably an *Hydrocele*.

THE Gentlemen concerned not agreeing with me in opinion about the nature of it, no alteration was made in the treatment; some months after, when the patient's constitution was much more injured by it, and the tumor greatly increased, I was again consulted, and declared, that so far from seeing the least reason to depart from my former opinion, I was now more confirmed in it: the patient then submitted to a puncture being made with a lancet, by his Surgeon in ordinary, and more than a quart of a fluid like brown beer was discharged. He has since been contented with the palliative method, and has good health in all other respects.

THE

THE suspension of every kind of tumor in this part, with a bag-truss, is absolutely necessary, as the pendulous situation of it weakens the contractile power of the vessels, and impedes the ascent of the fluids; and it seldom fails of preventing, or removing the pain of the loins, which is generally a concomitant of an enlarged testicle, from a stretching and irritation of the spermatics.

In the early part of my practice, I saw an eminent Surgeon castrate a person on account of this kind of *Hydrocele*: I well remember examining the testicle after the operation, which appeared not the least affected. I have since been concerned in two cases similar to that in all appearance, after the fluid had been several times evacuated, by tapping: the one was in a person of a strong constitution, aged about sixty, in which I applied a caustic the whole length of the tumor, and nothing particular occurred in the cure: the other was in a person, aged forty five, of a lax habit, where I succeeded very well, removing an oval piece of the teguments and *Tunica vaginalis* by incision; which I think is preferable in general to the caustic.

In the scrotal *Anasarca*, I have several times made incision on each side of the *Scrotum*, with advantage, without ever having a mortification ensue, but there is reason to fear it from a languid circulation, and abatement of native heat, in a part so situated, which should be well guarded against by internals as well as externals, with the assistance of the Physician when it can conveniently be had.

An

An Hydrocele taken for an intestinal  
*Hernia* and treated accordingly.

A Gentleman asked my opinion for his child about three years old, who was supposed to have a Rupture: upon strictly examining the parts I discovered a tumor just below the ring of the muscle upon the spermatic cord, extending almost to the bottom of the *Scrotum*, in which the testicle was included. I did not doubt of its being an *Hydrocele*, and in all probability it was rendered worse than it would otherwise have been, by being treated as a Rupture; for until it grew too big it was forced into the *Inguen* and there confined with a truss.

I DIRECTED a fomentation prepared with discutients and astringents to be used twice a day; that the child should take now and then a few grains of *Merc. dulcis* with Rhubarb, and wear a bag-truss.



By this treatment the tumor was visibly diminished in a few weeks, but the Gentleman desiring to take advice in *London*, asked me to give him my opinion, with the method I had taken, in writing: the Surgeons whom he there consulted agreed with me, and the child was cured in a few months without altering the method.

A case

A case of an Hydrocele of the *Tunica vaginalis* on each side, attended with some extraordinary circumstances; in which castration was performed on one side, and the operation for the radical cure on the other according to Mr. *Douglas's* method, described in his judicious treatise upon that subject.

*W.* *A.* of *H.* naturally of an healthy, robust constitution, which he had much impaired by intemperance, especially by drinking spirituous liquors, in a violent effort to raise an heavy weight, was sensible of a cracking in his loins as if something broke, to use his own expression; he was immediately disabled from walking, and soon after observed a swelling on the left side of the *Scrotum*. After some months he asked my advice, and the case appeared to me a true *Hydrocele*; I opened it, discharging about a quart of  
a lim-

a limpid fluid, and he soon followed his ordinary employment.

Not long after, the same disease appeared on the other side, and in about five or six months I made a puncture with a lancet on each side, discharging from each about a pint and a half of the same kind of fluid.

In the space of two or three years I performed the operation five times on one side, and four on the other, which never confined him from his business more than a day or two.

ABOUT two months after the last punctures were made, when the parts were considerably distended again, with the fluid, he received a fall from his horse, in a drunken condition, which occasioned a violent contusion and *Ecchymosis* upon the whole *Scrotum*, attended with great tension and most exquisite pain of the *Abdomen*: these symptoms were very threatening, and his life seemed to be in imminent danger; but bleedings, lenient purgatives, and the general antiphlogistic method



## 82 CASES and REMARKS

thod relieved him; still there was great reason to fear from the remaining complaints and appearances, that the internal parts had greatly suffered.

WHEN the parts were filled again I made punctures as usual; on the side where I performed the operation first, the lymphatic fluid was mixed with blood, but on the other side it appeared as before. From what I now observed I thought there was good reason to propose the method for the radical cure, which was attempted with the approbation of several able Surgeons, on *August* the 24th, 1756.

UPON cutting the skin and *Tunica vaginalis* I found the latter grown almost cartilaginous, and near half an inch thick; the testicle itself appearing decayed like soft rotten liver, I altered my original design, and, with the concurrence of my brethren, removed it as well as the *Tunica vaginalis*, and took up the spermatic artery with the needle and ligature, without inclosing it in the thickened cord; then I cut away as much as I could of the *Tunica vaginalis* on the other side, which was greatly

greatly thickened, but the testicle here was not affected.

THESE operations were very tedious, painful, and hazardous; but the symptoms in consequence of them were favorable. Emollient clysters frequently repeated, bleeding, pouring warm oil often upon the *Abdomen*, covering it with flannel, and keeping bladders of warm water constantly upon it over the dressings, gave him very sensible relief, and probably prevented bad accidents: nothing happened to obstruct the cure by the common treatment; he was dismissed in seven weeks, and followed his business without any inconvenience.

The constitution, state and condition of the patient who is about to undergo any capital operation, require to be well considered before hand, that what is amiss may be rectified as far as possible by diet, medicine, &c. in order to prevent accidents in consequence of it, as well as early care and constant attention after the operation: nor, ought we ever to forget how essentially necessary it is, that peace and tranquility of mind should be preserved in our patients; we should therefore studiously endeavor to strengthen their confidence in us.

A case of an enlarged Testicle from a Blow, which succeeded happily.

*March* the 17th, 1755.

**M**R. E. W. of M. a man of a robust constitution, aged about thirty, sent for me upon this occasion about a fortnight after the accident. The tumor was of a large size, inflamed, hard, and painful, accompanied with a fever; and the spermatic cord was greatly enlarged. I bled him and repeated bleeding occasionally, seeing his blood was in a fizy state, gave him lenient purgatives, and nitrous medicines, advised an exact *Regimen*, and used a fomentation twice a day, with a portion of *Spirit. Mindereri* in it, applied cataplasms prepared with oatmeal and the fomenting liquor, adding a little *Ol. Rosar.* to prevent stiffness, and supported the part with a bag-truss, strictly enjoining him to keep his bed, as an horizontal position would most favor the retrograde motion of the fluids through the diseased parts.



By this treatment all his complaints were soon abated; when I found him in a condition to bear *Mercury*, which was in about three weeks, I had recourse to that powerful medicine, though I had not the least reason to suspect the case to be venereal; I gave him four or five grains of *Merc. dulc.* rubbed with *Flor. Sulphur.* for four or five nights successively, and a lenient purge the next morning, still continuing the nitrous remedies, topical applications, &c.

AFTER persevering about a month in this method, the testicle was greatly diminished, the inflammation and pain quite gone, and but little Hardness remained: instead of the other external applications I then directed a mercurial Ointment should be well rubbed in twice a day, and that he should purge gently at due intervals, which reduced the testicle to its natural size, and intirely removed the Induration in about two months.

A *Cancer* upon both the *Testicle* and *Epididymis* from a Blow, in which castration succeeded.

November the 9th, 1756.

I WAS desired to assist in this operation upon a Gentleman about fifty years of age, naturally of a strong, healthy constitution.

WE found the spermatic cord in a much better condition than we apprehended before the operation; though the spermatic artery was exceedingly enlarged, which we took up with the needle and ligature, without including the cord: the whole *Testicle* and *Epididymis* were cancerous, floating in a considerable quantity of lymph, contained in the *Tunica vaginalis*.

THE symptoms after the operation were very favorable, and the case terminated happily. The operation was advised long before, but the patient would not then consent to it. He still continues perfectly well.

A *Dropsy*

A *Dropſy* ſituated between the *rectus*, *vastus internus* & *externus Muscles*, immediately above the knee, which had been long looked upon as an incurable *White-ſwelling*.

February the 2d, 1753.

**H.** C. aged forty five, was brought to me by the officers of the pariſh of *T.* and gave me the following account of himſelf: that he firſt took notice of a ſwelling about fix years ago upon the anterior part of the thigh, immediately above the knee, attended with a dull ſenſation of pain: that the ſwelling gradually increaſed, and for a year or two paſt his pain had ſometimes been very acute: he alſo told me, that the methods which had been taken by thoſe under whoſe care he had been, rather increaſed his complaints; and that they adviſed him not to ſuffer it to be opened, by any means.

FROM my experience and obſervation in four caſes which appeared to me ſimi-



## 88 CASES and REMARKS

lar to this, wherein I had succeeded, I did believe there was a lymphatic fluid collected between the muscles, which was absolutely necessary to be evacuated, having been so long extravasated, that there was no probability of its ever being absorbed; therefore I did not hesitate to advise the opening of the tumor.

HE had a lax habit, and his health in general was never very good: when I had corrected a little disorder in it, which appeared to me proper should be first attended to, I opened the tumor, both on the inside and outside of the limb, by incisions of two or three inches in length, aiming to make them in the interstices of the muscles, and discharged more than a pint of inspissated lymph: I drew a seton through and continued it until I thought the cavity might be a good deal contracted, then left it out, touched the edges of the wound with *Caustic. lunare*, to prevent their uniting too soon externally, dressed superficially, and applied a laced knee-piece, with an easy compress affixed to it, to rest upon the top of the thigh.

THE

THE discharge gradually abated, and quite ceased in about six months: the patient continues perfectly well, with a free motion of the joint, and can walk many miles without pain or inconvenience.

IN two of the cases which I have mentioned, the fluid appeared also below the knee; on the inside in one of them, and on the outside in the other, where I made openings as well as above, and found they communicated,

THIS disease has been taken for a dropfy of the joint, in which the fluid is contained under the burfal ligament; but there is a very material difference between these diseases in point of danger, though of great apparent affinity: for, the access of the air upon opening soon changes the soft into an acrimonious fluid, productive of dreadful consequences when in the joint. The more manifest fluctuation of this fluid, and its extending higher up the thigh when its residence are between the muscles, are *Criteria* by which we may generally distinguish one from the other.

A true

A true *Scirrhus* upon the thigh.

**M**R. *Donne*, whom I have already mentioned, desired me to be present about two years ago, at the extirpation of a painful, moveable and exceeding hard tumor, which had been gradually growing about five years, situated underneath the *rectus Muscle*, with its fixed point towards the knee between the *vastus internus* & *externus*.

THE patient was twenty five years old, and his constitution not remarkably bad. It appeared doubtful to us in consultation what was best to be done in this case; but the patient would not hear of the loss of his limb, which seemed rather more adviseable than the extirpation of the tumor only.

THE tumor was well extirpated; it weighed thirteen ounces, and was plainly glandular: the outside of it was white, smooth and almost as hard as a cartilage,  
the



the inside resembled an hard apple when cut.

THE symptoms after the operation were at first not unfavorable; but the case soon appeared of a cancerous nature, as was suspected, and killed the patient.

Of excrescences with a cancerous aspect.

MANY years ago, in a young subject, I extirpated a large excrescence of this kind, which filled the orbit of the eye, and I was obliged to remove the greater part of the eye with it: the operation succeeded very well, and nothing occurred in it, or afterwards, worth particular notice,

I HAVE since extirpated a smaller from the eye of an elderly Gentleman, in consequence of its being thought advisable in consultation, to remove it by incision: it appeared similar to the second case in *Hildanus*. The eye remained easy about three years after, then another excrescence sprouted from the opposite corner of it; but as the success was now deemed very precarious, he resolved not to submit to another painful operation, contenting himself with a gentle palliative method; it grew gradually worse, and ter-

terminated in a true cancer, affecting the whole globe of the eye before he died.

ABOUT five years ago a woman upwards of seventy shewed me a large substance, apparently of this nature, upon her head, proceeding from what she called a wen, in which state I never saw it: the part upon which it was situated, encouraged me to propose the operation, as I could easily take such a circumference as would be most likely to eradicate it effectually: I extended the incision near an inch beyond the *Basis* of the excrescence, and left the scull quite bare. The cure was effected without any difficulty, and the part still remains perfectly well.

I WAS concerned in the amputation of a *Penis*, some years ago, on account of an enormous fungus substance upon the *Glans*, from a venereal cause: we met with no difficulty in stopping the blood; after fixing the skin by a soft narrow roller, turned three or four times round the member, I compressed it sufficiently with my fingers and thumbs, whilst the operator amputated it by two incisions, and  
took



## 94 CASES and REMARKS

took up two vessels with the needle and ligature: we found no occasion for a *Tourniquet* in the operation, nor a *Canula* in the cure, both which may have their use in some cases. The patient was put into a proper course, and cured without much trouble.

## Of Wens.

THE *Steatoma*, *Meliceris* and *Atheroma* are the three kinds of incysted tumors which our Writers take notice of under the denomination of *Wens*, besides which there is a fourth *Species* not observed by them, appearing to be only an increase of the *Membrana adiposa* itself, which sometimes grows to an enormous size.

I ASSISTED a Gentleman of great eminence in his profession, many years ago, in taking off a tumor of this sort, which was situated upon a woman's loins, and extended from one side to the other, hanging down upon her hips, and resembling a cushion such as porters rest their burdens upon; it weighed about fourteen pounds; I carefully examined it, and found it was entirely fat. I have since extirpated six myself, but none of them weighed more than a pound: no ill accident happened in the cure of any of them.

THIS

## 96 CASES and REMARKS

THIS kind of tumor admits of extirpation better than those above-mentioned, which sometimes are so deeply rooted between the muscles, and situated so near large blood vessels, as to make the operation tedious and dangerous; but this may be dissected from the common membrane of the subjacent muscles, with great ease and safety.

THE softness of this sort of tumor, feeling like fat, with the breadth of its base, distinguish it from the other; but I have seen one in which the substance was harder, and deceived our judgment before the extirpation; upon examination after, it was found to be a lump of perfect fat.

After having observed this kind of tumor several times, I accidentally met with it particularly and accurately described by *Monsr. Littre*, in the *Mem. de l' Acad. Roy. des Sciences*, for the year 1709; he calls it *Lipome*.

A com-



A compound fracture in which the power of Nature was manifested in a very singular manner.

July the 11th, 1739.

*J.* *W.* of *B.* about twelve years of age, had both the *Tibia* and *Fibula* fractured by the wheel of a waggon heavily laden, passing obliquely over the limb in a deep rut, from just beneath the knee externally, quite to the extremity of the heel, making the most horrid, large lacerated wound that we ever saw, with about nine inches of the *Tibia* projecting.

My very good friend Mr. *Amyas*, late of *Norwich*, fortunately happened to be at my house at this juncture, to give me his advice and assistance. At first sight we knew not how to act for the best in a case so dismally circumstanced; we deliberated upon it, and at length resolved to saw off a considerable portion of the bone, according to Fig. 1. Pl. 10. rather than in-

H

stantly

## 98 CASES and REMARKS

stantly amputate the limb, considering the very drunken condition the boy was in; we then snipped off the loose and tattered teguments, removed some sharp pointed fragments of the bones, brought the parts into as good a state as we could, dressed in the common manner, and placed the limb in a case well lined with wool, tow, &c. contrived so as to give as little disturbance to it as possible upon dressing.

THE wound soon digested kindly, and the cure was effected by the common treatment, without any ill accident of consequence supervening; which we ascribed to our precaution in removing the fragments and splinters of the bones at the first dressing.

IN about three weeks I was sensible, as were several Surgeons, whose curiosity led them to see so uncommon a case, that the substance which grew in the space of five inches entirely void of bone, had acquired, in the middle only, a greater degree of hardness than flesh: this circumstance, which does not agree with the general received notion of the generation of *Callus*, we proved beyond  
dis-

dispute, with a sharp-pointed instrument; and we observed that the ossification was gradually formed from that central point, which was considerably advanced before any exfoliation was cast off the ends of the divided bone. In less than four months the whole space was so well supplied with the *Callus*, or rather new bone, that he was able to raise his leg when the bandage was off, without its bending. About a month after, he ventured without my knowledge, to stand upon it; it had then stability enough to bear an equal proportion of the weight of his body, and in a little more than half a year after the accident he walked pretty well, without any assistance. His leg is well shaped, not half an inch shorter than the other; and he told me some years ago, that he could walk forty miles in a day without pain.

IN eleven compound fractures I have sawn off a considerable portion of the *Tibia*, and succeeded in both old and young subjects, which have given me fair opportunities of observing every day's progress in the generation of *Callus*, and I always found it had externally the appearance of



granulations of flesh, changing gradually into bone: of which formation, gradation and change, I shall not here attempt an explication; but this, the last and the following paragraphs are the more worthy of notice, as the preservation of limbs may prove the consequence of their being well considered.

IF the external wound happens to be small in a compound fracture, an ample dilatation of it at the very first dressing, is a point which demands our particular attention, that any membranous strictures, discoverable by gently introducing the finger, may be set at liberty, by scissors or otherwise; that *Coagulum*s of blood, extraneous bodies, loose fragments and splinters of the bone may be extracted before the parts grow tense, inflamed and tender, in order to prevent the train of direful symptoms arising from irritation of the sensible parts: and if much of the whole substance of the bone protrudes, sawing off a portion of it, will hasten the cure, and give an opportunity of keeping the limb in a true direction in the Case described in Pl. 6. either with or without the  
ma-

machine represented in Pl. 7. Fig. 1. by itself; and upon the limb Fig. 2. to keep it steady and gently extended.

By this treatment and such applications as are generally used in large lacerated wounds, in conjunction with a timely observance of a proper *Regimen*, &c. the formidable accidents, as violent pain, fever, inflammation, &c. will in a great measure be obviated, as I have good reason to believe, founded upon experience, and such success, as makes me think this method, which I always pursued, cannot be too much inculcated.

THIS kind of accident is indeed very liable to a mortification, which should not alarm the Surgeon to an hasty determination of the loss of the limb: as soon as there appears any tendency to it, after the use of an antiseptic fomentation, with *Sal. ammon. crud.* dissolved in it; dressing the wound with warm digestive twice a day; wrapping the whole limb up in a cataplasm of barley-meal, bread, *Spec. pro cataplasm. e Cymin.* with the fomenting liquor, or such like; applying bladders about a

third full of hot water to preserve a due degree of heat from dressing to dressing, will be found very beneficial. Here also recourse may be had to the Bark joining Rhubarb with it occasionally; but that efficacious medicine requires great judgment and circumspection in the use of it: much certainly may justly be expected from it in mortifications where there is a laxity of the fibres: *Rad. serpentar.* and *Volatiles* may be joined with it to great advantage in some cases, and *Nitre* in others; but this is the Physician's province.

The renewal of the bandage is painful to the patient, and troublesome to the Surgeon in a compound fracture; in order to defend the bandage from the matter, that we may be under no necessity of changing it often, the green waxed cloth, commonly called oiled-cloth, may be placed on the outside of the compresses, which will effectually prevent that inconvenience. The compresses and tails of the bandage should be moistened with *S. V. Vin. rub. & Aet.* mixt together, to correct the putrid offensive smell of the matter, &c.

As a case of this nature absolutely confines the patient to his bed in one posture, too much care cannot be taken to make it easy under him: if the limb be secured in the manner described, he may be safely lifted up with the sheet at any time during his decumbiture, by two strong persons on each side, assisting himself with the rope usually fixt over him, whilst the nurse makes up the bed, and lays every thing smooth and even: but all this should be conducted by the care and discretion of the Surgeon.

Miscel-



## Miscellaneous remarks upon luxations.

COMPOUND luxations are of a more dangerous nature than compound fractures, for very plain reasons; but if the Surgeon should judge it advisable to attempt saving a limb under such threatening circumstances, I am inclined to think he will be more likely to succeed, by sawing off the head of the bone, from what I have observed, especially if it has been long quite out, and exposed to the air.

MANY years ago my old acquaintance and ingenious friend Mr. *Cooper* of *Bungay* was called to assist in an amputation, on account of an extraordinary accident of this nature at the ankle-joint in an old subject; but instead of consenting to the intended operation, he sawed off both the head of the *Tibia* and *Fibula*, as represented in Pl. 10. Fig. 2. by which means he preserved the limb, and made it so useful that the poor man walks, and works

for his bread; of which success I am a witness: these are cases which call upon the Surgeon to join the greatest prudence to his skill in his profession.

THIS able Surgeon told me he had succeeded to his wish in a young subject, by sawing off the head of the *Radius*, which passed through and made a dismal laceration of the tendons at the wrist, and that his patient found little or no defect in the motion of the joint. I have also succeeded beyond my expectation in cases of this nature by the same practice,

MR. *Freke's* Commander, with a very little alteration, appears to me the best machine which I have seen, for the reduction of an old and obstinate luxation of the *Humerus*, as the limb may be moved in all directions during the extension, and the situation of the head of the bone examined at the same time: I have succeeded by it in cases of many months standing, that would not yield to other methods, but great care is required in the use of it, particularly to keep it in a true perpendicular direction against the patient's side, which  
may

may very easily be effected by fixing it steadfastly with screws to the floor, if the base of it be enlarged; and to the side by a girdle round the body.

IN recent cases I have always been so happy as to succeed by hand, which is the best instrument when powerful enough, and in general violent force is not required: the method I have usually followed is, placing the patient in a sitting posture upon the floor, securing his body in a good attitude with a band properly padded unto a hook screwed into a door-post, by which means a fixed point is made, and we have less to attend to; this circumstance is of no small consideration, for when the extension and counter-extension are made by the assistants placed in the common manner, it is scarce possible for the Surgeon to make them exert their force steadily and regularly enough to keep the arm at a right angle with the body, which is generally necessary, until he directs the depression, or other direction of it.

THAT kind of luxation of the *Humerus*, where the head of the bone slips beyond



yond the *Coracoid Process* under the *Pectoral Muscle*, and rests upon a rib, may baffle the attempts of the ablest Surgeons, as I have seen, both by hand and instrument, from the opposition which that process makes to the return of it. An examination of the skeleton will make this matter very obvious, and as evidently shew the best position for the arm, in making the extension, to facilitate the return of the head of the bone: it is also possible that when the bursal ligament is upon the full stretch, it may suffer a laceration by a violent force from the head of the bone, and then collapse about its neck in such a manner as to render reduction impossible.

AFTER reduction and observing the general rules directed in fractures, to prevent or remove the common accidents, it should always be remembered to give the joint gentle motions frequently, as soon as it will bear moving without causing pain, in order to prevent stiffness from an accumulation and spissitude of the *Synovia*; and to recover the action and power of the muscles wherever the luxation happens to be, but more especially when at the elbow.

The

The same precaution should be observed, when a fracture happens near a joint, that the *Callus* may not occasion an incurable immobility of it; but in this case more care is required in moving the joint, lest the union of the bone should be interrupted.

When a greater force than ordinary is required in the reduction of an arm or thigh, the pulleys in Dr. *Desaguliers's Experimental Philosophy*, Pl. 10. Fig. 7. are applicable so as to exert their full power upon the bone itself; by which one person will be equal to many, even supposing their force by hand could be united commodiously to that purpose; there seems to be no objection against their use, as they can be affixed to the part without injury, and have their power easily regulated. *Scultetus* in his *Armament. chirurg.* has something like them, which he took from *Vitruvius*.

A very

A very remarkable case in consequence of a simple fracture of the leg, in which strait, bandage and other mismanagement caused a mortification, and interrupted Nature in the union of the bone.

*J.* G. of H. aged twenty five, of a robust constitution, broke his leg in the depth of winter; immediately after the accident he sent for a Surgeon, who was much addicted to drinking, and not being in a condition at this time to do his duty, left the limb in a bad position with a strait bandage upon it, which occasioned a mortification: another Surgeon was called, under whose care it remained about six months, and probably by his too frequently disturbing the limb, according to the patient's account, nature was disappointed in her work.

THIS Surgeon not being able to continue his attendance, the case fell under my care *June* the 3d 1740: the limb was now very crooked and œdematous, with  
a si-



a sinuous ulcer and carious bone from the middle of it quite to the angle. Having opened the *Sinus* sufficiently, I found the whole substance of the bone, about three inches in length, moveable under an arch of *Callus*, as described in Pl. 10. Fig 3. *a. a.* grown as hard as bone; I saw no possibility of extracting this piece of dead bone without cutting away the arch of *Callus*, which, after laying it bare, was effected with a small carving gouge a little curved near the point, and an oblique-edged-chizze! and mallet. After extracting the piece of bone the ulcer healed kindly; the space was filled up with a bony substance, and in about six months the limb became so useful that the man walked about: afterwards it was so strong that he carried heavy burdens as he used to do, without any inconvenience.

A SURGEON of my acquaintance, of unquestionable abilities, told me he assisted in an amputation in a case similar to this, and frankly confessed, that upon examining the limb after it was taken off, it appeared to him it might have been saved by this method.

Some

Some rules necessary to be observed in the treatment of simple fractures.

AFTER reduction in the gentlest manner, and placing the limb in the easiest position, repeated bleeding, keeping the body open, and the patient under a cooling, diluting *Regimen*, are of the utmost consequence in order to prevent or remove pain, tension, inflammation, &c. especially if he be of a sanguine or plethoric habit: by these means too, the part will be the sooner brought into a condition to bear moderate pressure to limit the growth of the *Callus*, upon which greatly depends making a slightly limb; for when the *Callus* is suffered to become luxuriant, it will be difficult, and perhaps out of the Surgeon's power, to subdue it to the patient's satisfaction. *Principiis obsta* — is an excellent precept in Surgery.

A CATAPLASM prepared with oatmeal, oil and vinegar, is one of the best

applications at first; but in the country the patient often lives at such a distance from the Surgeon that he cannot attend to apply and renew it so often as is necessary: *Unguent tripharm.* or *Cerat. alb.* alone or mixed together will be found a good substitute spread upon a piece of the tailed bandage, by which and embrocating the limb once a day, with warm oil and vinegar, the intention of the cataplasm will generally be well answered, and without any disturbance to the limb: but applications, bandages, &c. must be varied according to the age and constitution of the patient, season of the year, and other circumstances, all which will be considered by the judicious and attentive Surgeon.

THE eighteen-tailed bandage, I think, is unexceptionable in simple as well as compound fractures; it is much more commodious than the roller, as it admits of viewing the limb, and making the necessary applications without disturbing it: the lappets of this bandage, if of a due length, may be drawn tight enough over compresses, to answer any purpose in the  
cure,



cure, as I have found by long and much experience; but in the conclusion, when the leg proves œdematous; the laced-stock-  
ing is the most eligible bandage, as it makes a more equal pressure than can possibly be made with the roller to recover the elasticity of the fibres. In such a state of the limb good friction with a flesh-brush and a warm embrocation are adviseable: the same means will also be found useful to restore the plumpness of the calf, which is apt to shrink and grow flabby during the cure of the fracture.

I CONTRIVED the fracture case for the leg many years ago, as shewn in Pl. 6. separately and upon the limb, which I have found very useful in compound as well as in simple fractures: the same kind of case is applicable to either thigh or arm: it has longitudinally all the stiffness of a deal board of the same thickness, and transversely all the flexibility of paper used upon such occasions, which by use and moisture soon loses its proper degree of stiffness: it is made of deal one eighth of an inch thick, with leather glued to it, and cut through to the leather at the distance  
of

of one sixth of an inch with a fine saw or a knife set to a certain gage, as the common splints for fractures are cut; I scarce know which manner of cutting to give the preference to, but the saw-kerf allows of most flexibility.

SEVERAL skilful and experienced Surgeons have tried this case upon my recommendation, and have assured me, that they find it answers the purpose better than any other contrivance they have used or seen. It is portable in the pocket, and may be used very well by only resting it upon a pillow, but, I think, to more advantage with junks or a box for the leg, and junks for the thigh; it must be covered with wool, tow or soft linen cloths, and the limb equalized with the same materials, to make the bearing regular and easy, using pieces of stiff paper occasionally where compression is wanted. The vacuity between the calf and the heel requires to be particularly attended to, and uniformly filled up, to prevent a deformity of the limb by the sinking of the bone, and pain of the heel by the weight resting too much upon that point.

I

THIS

## 114 CASES and REMARKS

THIS case perhaps would be of considerable use in the Camp to transport those with fractures from one place to another with the greater ease; or in the Navy to prevent their being so much affected with any extraordinary motion of the ship: it has been made use of by two of my brethren in great business, to remove patients many miles in compound fractures; they have informed me that it answered the end perfectly well, and that their patients complained of but little pain upon the motion of the carriage. One of these Surgeons has provided himself with various sizes for thigh, leg and arm. When a wound happens to be underneath the limb, part of the case may be cut away, to come at and dress it with ease to the patient.

SOMETIMES great inconveniences arise from the obliquity of simple fractures upon the leg as well as upon the thigh, which the machine already mentioned for the compound fracture may obviate: whenever it may be thought proper to use that with this case, intended when used alone to pass above and below the knee and ankle-joints, it must be shortened so as to leave



leave room below the knee and above the ankle to affix the machine.

THE gentle extension and steadiness the limb will be kept in by these means, will greatly contribute to the prevention of pain upon any unavoidable motions, or startings in sleep which frequently happen; as well as preserve the natural length and figure of it: and the patient may be moved from one part of the bed to another with ease and safety. When there is a good coaptation made of the fractured bone and maintained by gentle extension, the lateral pressure of the case will take effect, without which, in this kind of fracture, the ends of the bone must inevitably shoot one over the other; under which circumstance the case alone cannot fully answer the purpose.

IT is scarce possible that a broken limb should be kept sufficiently steady, unless whatever is made use of for that purpose passes over the joint above and below the fracture, which this machine does, and at the same time gives an opportunity of moving them to prevent their growing

I 2

stiff,

## 116 CASES and REMARKS

stiff, without disturbing the fractured bone; so does the case when used alone, where a continued extension is not required; which are circumstances that should by no means be over-looked in the management of fractures.

How to keep a fractured thigh duly extended, in adults, has exercised the thoughts of some of the ablest Surgeons, and it is indeed a point of great importance to be well effected.

I GOT a machine made lately for this purpose, according to a sketch I drew of it many years ago, and soon met with a fair opportunity of trying its usefulness: I found it answered my design beyond my expectation in a very bad oblique fracture, attended with a violent cough, which occasioned extreme pain by shaking the limb, and deprived the patient of rest; it kept the part sensibly to himself in a gentle extension and steady posture, so that it was not the least affected with the cough afterwards, which before, according to his own expression, gave him such a sensation of pain as if the ends of the bone had been thrust-

thrusting into the flesh. The machine being lined with soft oiled leather, and well stuffed with wool, sat very easy upon the part without the least excoriation. Pieces of buff-leather, I imagine, would defend the limb against the machine as well as the lining and stuffing.

THIS machine is very simple in its construction, and is intended to maintain its power upon the limb, in any position necessary to put that or the body in, and I hope repeated trials will farther confirm its usefulness: in Pl. 7. Fig. 3. it is shewn by itself, and in Fig. 4. upon the thigh with the fracture case, both which leave good room to open and dress the limb, without removing any more than the upper part of the case confined with the ligatures, and turnikits which are of excellent use in straitening or loosening the ligatures, without any hazard of giving disturbance to the limb.

AFTER the case is well lined with wool or other soft materials, the tailed-bandage should be laid over that lining, having the upper piece spread with *Un-  
guent. tripharm.* or *Cerat. album*, to receive



## 118 CASES and REMARKS

the fractured limb, before reduction, that it may not be liable to disturbance immediately after; upon which it should be gently extended in a true direction, that as little pain as possible may be excited, increasing the extension gradually to the necessary degree: thus the bone will often be reduced without much uneasiness to the patient; but when the extension is hastily made with great force, the violence of the pain, sometimes throws the muscles into such spasmodic contractions, as more than counteract any extending power the hand can exert to bring the bone into a reducible state. If the machine be used with the case, that should be placed under it at first for the same reason.

PLASTER-compresses appear to me the best to prevent an exuberance of *Callus*; and when a limb happens to be distorted, if the *Callus* will yield, by applying one of a considerable thickness to the protuberant part, and two to the other side of the limb, leaving a due space directly opposite to the protuberance, it may, by the use of the machine to extend it, and by the force of the turnikit-ligatures upon the frac-

fracture case, be gradually reduced to a good figure, without causing an immoderate degree of pain, as I have experienced in some instances. I have succeeded without the use of the machine.

THE same kind of compresses are also of signal service in a fracture of the rib or clavicle, the latter of which requires nice management to prevent deformity; the cavity between the *Sternum* and *Acromion Scapulæ* should be gradually filled up with them and other compresses, with pieces of stiff paper upon them, that sufficient pressure may be made upon the fractured part, by the roller artfully turned so as to keep the fractured bone gently extended; without which precautions the *Callus* will frequently prove very luxuriant.

## PLATE VI.

- Fig. 1. The inferior piece, which, for a limb of a common size, requires to be 22 inches long; from the hollow at the ham to that at the heel 13 inches, and about 9 broad at the calf.
2. The superior piece should be about 12 inches long, and 6 broad at the top.
  3. The sole-piece may be 10 or 12 inches long, broad at the top  $4\frac{1}{2}$ , at the bottom  $3\frac{1}{2}$ .
  4. The turnikits and wire passing through them, used in straitening the circular ligatures. The turnikits should be about  $2\frac{1}{2}$  inches long, resembling a peruke-maker's pipes.
  5. The several pieces, which compose the case, shewn upon the limb.

Leather straps and buckles may be used to support the sole-piece instead of fillets. The loops for the fillets to pass through, may be made with large brass wire or leather.

PLATE





## P L A T E VII.

Fig. 1. The tranfom, to which the fole is fsecured, opens and is fixed by the pin; and the machine may occafionally be made wider, as appears by other holes in the tranfom, about which, on each fide of the fole, fillets are to be tied, coming from a dimity or canvas piece laced round the heel and inftrep, to make the extenfion upon the working of the fcrews.

2. Shews the machine and cafe together upon the limb.
3. The longitudinal parts of the machine for the thigh, are designed to move upon the circular plates, by which means it may be accommodated to limbs of a different fize; and as there is a pin at each end of the circular plates, if the limb happens to be larger than ordinary, ftraps of leather may be added.
4. Shews the machine with the cafe upon the thigh. There fhould be two keys, that the machine may be wrought on both fides at the fame time,

Remarks

## Remarks upon Amputation.

**T**HOUGH the preservation of limbs undoubtedly gives the highest pleasure and reputation to Surgeons, and is the object they ought always to have in view, yet, when amputation is found absolutely necessary to save life, there are some circumstances worth attending carefully to for the ease and benefit of the patient.

SURGEONS have long complained of the great inconveniences attending a want of flesh, to cover the end of the bone in amputation above the knee, by which the cure is much retarded; the stump left in a conical form when cured, and more liable to external injuries ever after.

IN order to prevent these inconveniences, many methods have been proposed and tried, which have not fully answered the end. In Pl. 8. is the figure of a retractor made of firm strong leather, which I invented



## 124 CASES and REMARKS

vented and first used in 1739, and, if rightly applied and managed, I am convinced by repeated trials, will effectually answer the purpose: the length of it for a limb of a common size, should be 14 inches, the breadth in the middle about 5, and the diameter of the central hole a little more than one: the lines direct the division of it.

AFTER making the double circular incision with the utmost exactness, in the usual manner, the operator may use either of the short knives described in the same plate, to divide the muscles quite round, about two inches up, close to the *Periosteum*; then put on the *Retractor*, adapting the hole of it well round the bone upon the *Periosteum*, desiring an assistant to draw up the muscles equally and regularly with it, as far as shall be thought necessary; after this, the bone is to be sawn as near the *Retractor* as possible, without paying any regard to the *Periosteum*, which will be no impediment to the motion of the saw; the more the bone be denudated of this membrane, the more liable it will be to exfoliate; but if the Surgeon chuses to  
scrape

scrape the *Periosteum* off the bone before he saws it, he will have a fairer opportunity of doing so when the muscles are thus retracted. The *Retractor* has a farther use, for, by inclosing the flesh, it defends it from the saw, and makes a more decent appearance in the eyes of the spectators, which is a matter of some consequence.

As much flesh may be saved by these means as the Surgeon judges proper; I have found an inch and a half or two inches sufficient, which I always made an allowance for, as far as I could, in the circular incision. When the muscles, &c. are brought down equally, and cover the end of the bone, strips of common plaster applied at due distances, passing through slits at the end of the stump over the usual dressing, and reflected four or five inches up the thigh will prove powerful enough to keep them in that situation, and be easy to the patient: thus a stronger pressure may be made at the end of the stump, if required, than can well be by the roller; but when a strong pressure is not required, the strips of plaster only decussating at the  
the

## 126 CASES and REMARKS

the end of the stump will be sufficient, without passing through flits.

I HAVE recommended this method to, and practised it in the presence of, several of my ingenious brethren; it has met with their approbation, and after trying it themselves, they have assured me that it fully answers the intention: since I followed this method, I have cured many stumps without any projection, or visible exfoliation of the bone; or the cicatrice being near so broad as usual. In the last amputation I performed upon the thigh, there was an absolute necessity of doing it much higher up than ordinary, yet, though it was a large limb, the cicatrice was but a few lines broader than the diameter of the bone, which was left concealed in a little cavity; the stump was speedily healed without any exfoliation. (a)

(a) Near ten years ago a friend of mine was at *Paris*, who had some conversation upon this subject with the Surgeon whose pupil he was, and he approved the method: at an *University*, where he was afterwards a student, he mentioned the same to a Surgeon of an Hospital there, who was by him induced to try it, and he said that it answered the intention much to his satisfaction.

THE



THE passing of the needle very deep, and including a great circumference of flesh, &c. within the ligatures, in taking up the arteries, create unnecessary pain, without so effectually answering the main end and purpose; for they will soon cut through the soft flesh, and may not then sufficiently compress the vessels to prevent future bleeding; besides they often lay the foundation of *Sinuses* troublesome to cure, and cause other inconveniences; therefore all possible care should be observed in passing the needle, which may be more certainly done without inclosing too much of any substance, when the mouth of the vessel can be discovered without loosening the tourniquet-ligature; and those well acquainted with the course of the arteries, after the blood is well spunged up, will be able to discern, and take up most of them necessary to pay regard to, without being shewn them in that manner; but when it is required to loosen the tourniquet-ligature, it should be done very slowly and cautiously, that the blood may not flow with impetuosity; the least bubbling appearance of it at the mouth of the vessel will

will be direction enough to an operator that is not precipitate.

PAIN is a fruitful evil that requires the utmost attention to prevent or remove; therefore above all things strait bandage should be avoided, to which from the interruption of the circulation of the blood may justly be ascribed not only pain but many of the most threatening consequential symptoms; a very little reflection will sufficiently convince us of the absurdity of the practice, and that instead of preventing, it tends directly to cause a fresh hæmorrhage, as has been demonstrated by one of the greatest men of the age. (a)

SOFT lint evenly applied, a plaster of *Unguent. tripharm.* or *Cerat. alb.* confined with slips of common plaster and a knitted woollen cap will be found dressing and bandage sufficient in whatever part amputation is performed, which readily yielding to the distention of the vessels upon the increased force and velocity of the blood, will allow a more uninterrupted

(a) Professor *Monro* at *Edinburgh*.

reflux;

reflux ; consequently less pain, fever and inflammation ; not so much offensive gleet, and a quicker digestion of the wound, as I have observed in many instances. Hence we may reasonably infer, that the patient's life will be exposed to less danger if strait bandage be omitted in amputation. As this method of dressing after the operation is the most simple and expeditious, as well as the easiest and safest, it may particularly merit the consideration of Gentlemen of the Faculty employed in the Army and Navy.

In order to make the circular incision with the more exactness, the use of a leather instead of a common fillet is adviseable to those not conversant in amputation ; one or two thicknesses of which rise enough above the superficies of the skin to be an unerring direction to the knife even in an hand not quite steady ; there is another advantage as it keeps the muscles firmer together to resist the knife, which are frequently very flabby where this operation is requisite : a second fillet, about three fourths of an inch from the first may sometimes be found necessary to the same purpose ; for in the cure of the stump much depends upon an exact and regular section of the skin, *Membrana adiposa*, and the muscles : I am inclined to think they may be cut, especially the muscles, to a greater exactness with a strait knife.

Instead of the common tourniquet and ligature I have some years used Mr. *Freke's* machine, which is superior to any contrivance I have seen for that purpose ; but when this is not at hand it will be prudent to affix



## 130 CASES and REMARKS

two ligatures to the compress, one of which may be rolled up and pinned back out of the way, to have in readiness if the other should happen to break : I give this caution, having been present when I was a young man upon such an alarming circumstance happening in the middle of the operation, upon the thigh of a stout man, which threw the operator into confusion, and made an impression upon the spectators to our disadvantage ; it was owing to the person employed in holding the tourniquet inadvertently twisting the ligature too much ; therefore great care should be taken in tying it, so that one turn of the stick or a very little more may make it strait enough : ever since this accident I have been particularly careful in this point. There is no hazard of the ligature's breaking thus in Mr. *Freke's* machine, as it rolls round a cylinder, nor does it pucker the flabby skin ; besides it is much more expeditiously straitened and loosened than the common tourniquet or that of Monsr. *Petit* ; but instead of the wooden it should have a soft compress and of larger dimensions.

Of a compound fracture, and an amputation in consequence of it, attended with very remarkable circumstances.

*December 12th, 1756.*

**M**R. *Layman* of *Diss*, a man of genius and great abilities in his profession, desired me to join in consultation with him, and some other Surgeons, in the case of a man aged about thirty five, of an indifferent habit of body, who received the day before a compound fracture upon his leg, by a waggon going over it.

WE found a piece of the whole substance of the *Tibia*, and another of the *Fibula* between four and five inches long, exactly corresponding with each other in length, loose in the wound; the muscles, &c. contused and lacerated in a most uncommon manner.

AFTER strictly examining the case, we were unanimously of opinion, that amputa-

tion without delay was most adviseable; it was accordingly performed, in which some circumstances occurred that we were not aware of: we thought we had indisputably determined for the best, in agreeing to take off the limb below the knee, from what we observed externally, and by the examination we made with our fingers in the wound; but in the operation, the flesh between the bones was found so soft, that it would not resist the knife, and the *Fibula* was so loose at its junction with the *Tibia*, that it could not be sawn without great difficulty, though the persons who held the limb, took particular care to keep it steady both above and below: we also found it extremely difficult to apprehend the artery, inclosed in this soft flesh, which would not well bear the ligature, and probably from that condition of the flesh, the vessel had liberty to retract farther than it could otherwise have done.

FROM the looseness of the remainder of the *Fibula* and the fleshy substance between that and the *Tibia* having suffered so much, we were of opinion, that the bones were broken by the first wheel, and the  
the



the second coming upon that part of the *Fibula*, nipped the intermediate substance between it and the *Tibia*, as in a vice.

EVERY thing promised success till the seventh day after the operation, when a violent effusion of blood proceeded from the vessel that was enveloped in the soft contused flesh, whilst Mr. *Layman* was dressing the stump. The use of the needle and ligature was now judged impracticable, from the great loss of muscular substance far up between the bones, nor could Mr. *Layman*, after having checked the hæmorrhage with the tourniquet, make the artery bleed again, though he let the ligature quite loose and waited a considerable time for that purpose: he then applied a piece of *Agaric* of the Oak, as nearly as he could guess over the mouth of the vessel, with good compression.

AFTER having proceeded thus far he dispatched a messenger for me, that we might consider together how to guard against this impending danger. Two days after, we were again alarmed with an hæmorrhage from the same vessel, which

## 134 CASES and REMARKS

proved so violent as to bring the patient's life into the most imminent danger, though a person constantly attended to use the tourniquet occasionally, but he was not vigilant in his post.

As the needle and ligature were now become entirely useless, and the *Agaric* had proved ineffectual, we had recourse to a vitriol button, after stopping the course of the blood with a tourniquet, and kept the ligature strait until we thought the *Eschar* was formed: in the dressing we applied lint and little pieces of stiff paper, with small compresses of cloth, so as to rise sufficiently above the surface of the stump, that the compressive force might be increased, as occasion should require, particularly and directly over the vessel, without affecting the stump in general. Having done thus, we gave him an opiate, and employed a person to make a constant pressure with his hand at the end of the stump over a circular piece of stiff paper, but not to such a degree as to cause much pain: then we speedily contrived a machine to act more equally and effectually than the hand; both of us recollect-

ing what *Monfr. Petit* has wrote upon this subject, at once fell upon his plan, but we made our machine much lighter, less complex, and more powerful, as the fixt points were upon the shoulders, than that which he invented for the Marquis of *Rothelin*, whose life was reduced to the utmost danger, by an effusion of blood twenty one days after the amputation of his thigh. (a)

WE agreed upon dressing again three days after, and then to apply buff-leather, answerable to the extent of the *Efchar*, moistened with ardent spirits in order to prolong the fall of the *Efchar*: this we thought was the best substance to resist the *Impetus* of the blood at the mouth of the artery; and it was used after the separation of the *Efchar*, until nature supplied a strong, and a better, covering of flesh.

(a) The relation of this extraordinary case is inserted at large in the *Mem. de l'Acad. Roy. des Sciences* for the year 1731, and epitomized in the Elogy upon that celebrated Surgeon in the second volume of the *Mem. de l'Acad. de chirurgie*; he then wrote a dissertation concerning *Coagulums* of blood in the arteries, as the means of stopping the hæmorrhage after amputation, and took great pains to propagate and establish that notion, which his own patient's case as well as this of our's seems to overthrow.



## 136 CASES and REMARKS

THE tourniquet was constantly used during the time of dressing, and continued until the machine was again well adjusted, which the patient said always made his stump easier, by a moderate degree of pressure at the end; and the reason of that effect is obvious enough. We used *Freke's* tourniquet, and that the frequent application of it might not affect the thigh, the place was frequently changed, and well defended against the ligature.

AFTER this we had no farther trouble from the bleeding, the stump healed kindly, and the patient recovered as good health as before the accident. We do attribute the preservation of his life, in a great measure, to the use of this machine, which is described in Pl. 9. For a stump of a common size the external plate may be about five inches in diameter, the internal four: they may be made circular, or a little elliptical, or of such a figure as the Surgeon thinks fit.

Among the rest of our chirurgical conversation at this meeting, mention was made of an accident, in which one of the arteries between the *Tibia* and *Fibula* was opened about the middle of the leg, and the  
bleed-

bleeding stopped from time to time by various methods, but at last it was thought adviseable to amputate the limb.

Upon reflection it occurred to me, that in this case the removal of two or three inches of the *Fibula* was practicable; which probably might have given a fair opportunity of coming at the bleeding vessel, and proved the means of preserving the limb.

PLATE

PLATE IX.

*a. a.* Circular ligatures to pin the bands to, intended to pass over the shoulders, in order to keep them parallel, and they should also be pinned to a waste band for the same purpose.

*b.* The tourniquet and ligature.

*c. c.* The fillets, passing through the upper and lower flits, to keep the machine steady and in a true direction when pinned to the bandage.

If the machine be used above the knee, it may be better to have the bands pass on the anterior and posterior parts of the thigh than on the sides, to prevent obliquity in their direction. How far this little inconvenience might be prevented, by passing in that manner, when the machine is wanted below the knee, I have not yet experienced.

The



The opinion concerning *Coagulum*s of blood plugging up the arteries after amputation of a limb, briefly considered.

INGENIOUS men sometimes offer experiments which are defective, or observations not well considered, to support their favourite notions: and when men of the greatest characters and abilities advance any theory, urging at the same time an experiment, or observation to enforce it, we are too apt to yield our assent, without making such inquiry into it, as every investigator of truth ought to do.

THIS seems to have been the case in regard to *Monfr. Petit*, concerning *Coagulum*s of blood being formed in the arteries, as the means of stopping the hæmorrhage after amputation: that great man, and those who have adopted his notion, positively assert, that upon examining after the death of the patient, they found *Coagulum*s of blood continued up  
those

# 140 CASES and REMARKS

those canals even to the length of four inches: but granting this to be a fact, it cannot be admitted as conclusive evidence of their existence before, or until the patient is *in Extremis*, when probably they may begin to be formed.

ACCORDING to that Hypothesis, the coagulated blood must either remain in the vessels or liquify and return in a putrid state; against which, I think, many weighty objections might be brought, and experiments made to put the matter beyond controversy. It appears to me highly reasonable, that the native heat of the part, and the action of the vessels, keep the blood in a state of fluidity fit to be received by the collateral branches, when checked by natural or artificial means in its direct progressive course, after amputation of the limb, and that the divided vessels then retracting, collapse and coalesce as far as their first ramifications, having their mouths soon sealed up with flesh, growing from the nutritious vessels, which work of nature is pretty evident upon the stump.

The use of fungous substances in restraining hæmorrhages, is the revival of an ancient practice, as appears from many undoubted authorities.

If

If *Agaric of the oak* could have been depended upon in all cases, instead of the needle and ligature, a painful part of operations would have been spared, and it must then have been considered as a discovery worthy of the high *Encomiums* bestowed upon it by its advocates at first, who undoubtedly had the good of mankind in view. I used the *Agaric* twice successfully in amputations below the knee, as appears by my letter to Mr. *Warner*, Surgeon to *Guy's Hospital*, which he desired I would consent to the publication of in the *Philosophical Transactions*; but it required great care in the application, and I never durst venture to rely upon its power above the knee; still, I think, it may be of use to a prudent Surgeon, and worth keeping by him.

I have since made some experiments, by which it does not appear to have the characteristic of a styptic, or to act by a corrugating property, but rather by its soft texture and adhesive quality: therefore, if that or any other similar substance should be farther tried in amputations, I would recommend the use of the machine already mentioned, which Mr. *Layman* and I used in his patient's case, and which he has since used with great advantage.

A case



A case in which the *Tibia* was affected to an extraordinary degree in a very short time, by a critical discharge of febrile matter upon a leg, which had been fractured some years before.

*J.* *A.* of *N. B.* aged about forty, was seized on *February*, 1740, with a fever, attended with most violent symptoms, and in about a fortnight, a swelling suddenly appeared up the whole leg, accompanied with great inflammation and pain; matter was soon discovered from the knee to the ankle, which upon opening was found very ill-conditioned, and the bone carious its whole length.

*MR. Barker*, an old practitioner of great skill and experience and his son were concerned; *Mr. Layman* and I being consulted were of opinion, that amputation was the only means of preserving the patient's life,

UPON

UPON examining the limb after it was taken off, we found the *Tibia* full of purulent matter instead of marrow, which had corroded the bone quite through in an infinite number of places, and in two places it was totally divided, as appears by a representation of it, in Pl. 10. Fig. 4. No part of the bone was free from the Caries, but the callus had evidently most resisted the acrimony of the matter.

THE man was in a very bad condition to bear the operation, on account of the fever, a cough, &c. but it succeeded, and he recovered a good state of health.

THE dreadful ravages the febrile matter here made in the bony compages, is a convincing evidence, to what an high degree of acrimony and corrosiveness animal juices may arrive in a short time.

An

An ulcer with a *Caries* of the *Tibia* in which the actual cautery seemed of signal service.

June, 1743.

I WAS consulted for the Daughter of Mr. S. of W. at the desire of her Surgeon. She was of a lax cachectic habit, and had an ulcer upon her leg with a *Caries* of the bone of about four years standing, extending from three or four inches below the knee near to the ankle-joint, which had been rationally treated by several Surgeons, without the use of the cautery.

AFTER carefully examining the case, finding the bone soft the whole length of the *Caries* and covered with hard ill-conditioned flesh, growing unequally out of the bone itself to a considerable thickness, I imagined that the first step towards saving the limb must be bringing the bone into a state of dryness, with the actual cautery,



cautery, the whole extent of the *Caries*, in order to prevent the growth of fungous flesh from thence; for though many exfoliations had, from time to time, been obtained, yet they did not prove sufficient to lay the foundation for healing.

As caustics had been long tried in vain to lay the bone bare and keep it so, the patient and her Surgeon readily consenting, I cut quite round the ulcer to the bone, encompassing all the bad flesh by the incision, then scraped it clean off, and as much of the soft bone along with it as was practicable, with a *Scalprum*, and dressed with dry lint; two days after, when that was removed, the cauterization of the bone to dryness, effectually prevented any future vegetation of bad flesh to obstruct the cure. Afterwards I perforated the bone in several places with a small crown of the *Trepan*, and found it affected in its whole thickness as I suspected. The weakness of the bone confined the patient to her bed, and obliged us to keep the limb encompassed with a

L

case

## 146 CASES and REMARKS

case of stiff paper, for some time, as in a fracture.

IN consequence of this method such exfoliations were obtained, as laid a foundation for the cure, which now proceeded very well, but it was a work of long time to complete it. Particular care was taken to correct the Dyscrasy of her blood, by diet and medicine. She enjoys to this day good health and has no manner of complaint in the limb.

Though the actual cautery is justly decried in carious bones in general, by the ablest practitioners of the present age, yet this *Species* of *Caries* seems to require the use of it, and I am convinced, from several instances, that it admits of it to great advantage: it answered beyond our expectation in this particular case, and I never saw so strong an instance of its efficacy: though it must carry terror with it, yet this patient said she had suffered much more, to no purpose, by the application and frequent repetition of the caustics.

When the dread of the patient will not allow of the use of the actual cautery in a case of this nature, after making the bone bare as mentioned, the *Lap. infernal*, or *Caust. commun. fort.* and *Spirit. Vitrioli* may supply its place, in bringing the distempered bone into the state of a dry *Caries*, by first rubbing it well with a piece of the caustic, and then striking a small quantity of the spirit over it with a feather. This method I have also tried with good effect.

Celsus

Celsus says, *de Morbis Ossium*, pag. 539. Edit. Vand. Linden. Oportet ante omnia os nudare, ulcere exciso, & si latius est ejus vitium, quam ulcus fuit, carnem subsecare, donec undique os integrum patefiat: tum id quod pingue est, semel iterumve satis est admoto ferramento adurere, ut ex eo squama secedat; aut radere donec jam aliquid cruris ostendatur, quæ integri ossis nota est; nam necesse est aridum sit id, quod vitiatum est.



## Of weak and distorted limbs.

THE general rules to be observed in the management of them are, supporting the weak parts, opposing the inclination of the bones and counteracting the bending force, without creating pain or interrupting the circulation of the blood. Certainly it is not less necessary, that the parts of our fabric, connected in a wonderful manner, should have a just and regular bearing one upon another for strength and support, than those of any piece of architecture.

A MACHINE of the kind shewn in Pl. II. I have by experience found very useful, in curing and relieving various disorders of the knee and ankle-joints, when other methods had not succeeded.

WHEN there is great weakness in these joints, and they are apt to incline inwards or outwards in young or old subjects, the common bandages cannot resist the inclination

nation of the bones; and if applied very strait with a view of giving support to the relaxed parts, they may so far interrupt the circulation of the blood as to cause an atrophy of the limb, which I have seen more than once from such mismanagement.

I F a weakened limb be kept in its true direction, Nature alone will frequently restore its proper tone or elasticity; but if it falls into an ill position, until that be rectified, little relief can reasonably be expected from the most efficacious applications.

A FEW years ago I was consulted about a gentleman's son, who had long been lame in his ankle-joint, and treated with the common applications and bandages, under which he grew daily worse: I found the ligaments much relaxed, and the *Tibia* by degrees had lost its perpendicular direction, projecting a great way over the *Astragalus*, by which means the limb became extremely weak, and the point of the *Fibula* bore hard against the external part of

L 3 the

150 CASES and REMARKS

the ancle, causing almost intolerable pain there, every step he made.

IN this case I directed a moveable easy pad should be added to the machine, to bear against the protuberant part of the bone, which, by virtue of a screw, acted upon it gradually just as it could be born, and was found necessary; by turning the screw a little every day, the limb was soon reduced to its natural position without exciting pain of any consequence; and in a few months he walked very well, without the assistance of the machine or a stick.

SOMETIMES I have directed it to be made double, in order to pass both on the inside and outside of the limb, for the greater support and security.

ABOUT three years ago I so far relieved a gentleman's wife, by this means, as to enable her to walk, though by external injuries done to both knees she had been quite lame for a long while: in this case the plates that bore against her knees on each side, were broader than  
ordi-



ordinary and concave, lined with leather and stuffed very soft with wool. She is now able to walk without any assistance.

IN the year 1735, I had a machine of this sort made for a gentleman's daughter, to receive the hip, in order to take the weight as much as possible off the knee, which was become extremely weak, painful and useless, from an extension received many years before, and was now deemed an incurable case. She soon found relief by keeping the joint steady, and removing the burden from that weak and painful part, which gave Nature an opportunity to recover the strength of it; she wore it about two years, then laid it aside for one less cumbersome, that did not go up to the hip; this she also wore a few years, and has been able to walk very well without ever since.

AFTER fractures of the leg, the machine as shewn upon the limb may prove a great security, especially when the patient will not be long enough confined, and exposes himself to accidents, before the *Cal-lus* be perfectly ossified, by which the good

152 CASES and REMARKS, &c;  
direction the Surgeon leaves the limb in,  
is sometimes altered to his discredit.

THE good effects we have seen from  
thus supporting weak and distorted limbs,  
in a variety of instances, shews the use-  
fulness of Mechanics in Surgery as well  
as in other Sciences.

Mr. *Page*, the watch-maker at *Norwich*, has a good  
head and a good hand; I have very often employed him  
upon these occasions much to my satisfaction.

PLATE





PLATE XI.

- a. a. a.* The steel bows, made thin and very elastic, must stand clear of the edges of the *Tibia*, pass about  $\frac{2}{3}$  round the limb, and be fixed with straps of leather hung unto pins.
- b. b. b.* The longitudinal plate, to be made of tough stuff as the workmen term it, and as light as possible with sufficient strength.
- c.* The shank to pass into the socket, in that part of the machine which is to be fixed into the heel of the shoe or laced-boot, and confined there by a screw at the bottom.
- d.* The screw to keep the shank in the socket.

A fin-

A singular dislocation of the *Astragalus*.

November the 30th, 1749.

**M**R. C. of *W.* falling with a ladder when he was near the top, his leg and foot fixed in such a manner between the staves, that the *Apophysis Tibiæ* catching hold of the *Astragalus*, wrung it out of its place, turning it upside down, and almost through the skin at the instep; the *Tibia* then rested upon the *Os Calcis* instead of the *Astragalus*, and the *Fibula* was thrown through the skin.

IN this situation of the bones they formed a kind of an arch, which rendered all attempts to reduction in vain; for the greater the extension and pressure made to that purpose, so much the more was the resistance to reduction.

I WAS joined in consultation with two able Surgeons the next day, and all things con-

156 CASES and REMARKS

considered, we unanimously thought it adviseable to amputate the limb forthwith.

THE patient survived the operation twenty seven days; but a profuse hæmorrhage happened from the stump on the eighteenth day, and I got to him but just time enough to prevent his bleeding to death. I believe he lost his life, through his own obstinacy and the imprudence of the nurse, in departing absolutely from our strict injunctions.

A mor-



A mortification in a man aged eighty one, where the Bark seemed to be of great service.

*August* the 24th, 1731.

I WAS called to J. H. of M. and found a deep mortification about the breadth of a crown upon the side of his foot. Considering his age, his having been confined to his bed many years, and that he was a drinker of spirituous liquors to excess, there could be but little expectation of curing him, yet it was necessary to prevent his becoming noisome to himself, and every body about him whilst he lived, which I confess I thought would be but a short time, as I told the parish officers who sent for me.

I DIRECTED a gummous and spirituous application and a warm cataplasm to the foot twice a day; that he should take a dose of an electary of the Bark and Snake-root every three hours, washing it  
down

## 158 CASES and REMARKS

down with a glass of anniseed-water, which had long been his favorite liquor; and that his diet should be of good nutriment, warm and spicy.

AFTER regularly persevering in this method about a month, there was a separation of the dead parts from the living, at the junction of the *Ossa cuneiform.* & *metatars.* where I disjoined the foot, without any pain or loss of blood, and the stump was perfectly healed in three months: after this, the poor creature lived more than a year, with as good health as for many years before, drinking gin or anniseed-water to the day of his death, saying he could not live without it, and that my indulging him with it he was sure saved his life.

SOME years after, I disjoined a poor girl's foot at the same place, on account of a *Sphacelus* occasioned by her laying abroad in a frosty night. She was greatly neglected, yet Nature had made a separation of the dead parts from the living almost quite round, and to the bones in some places, before she was committed to my care. The

I                      stump

stump healed without any extraordinary trouble, and she walked much better than she could have done with an artificial leg. Bearing down the lower part of the foot strongly, whilst an assistant keeps the upper part steady, after having cut the ligaments on the top, very much facilitates the disjunction of the bones.

A scirrhus



A scirrhus tumor upon the heel of a very threatening aspect, successfully extirpated.

*December the 29th, 1755.*

**M**R: J. P. aged about twenty five; of a good constitution, shewed me this tumor, and told me, that he believed it proceeded originally from an external injury received about twenty years ago. In four or five years it grew gradually to the size of a pigeon's egg, was moveable and exquisitely painful, especially in the night when warm in bed: he took the advice of a Surgeon about that time, who applied a caustic, which did not penetrate far into it; the application of the caustic was repeated several times to no purpose. After this treatment the tumor increased faster than it had done at any time before, and in a few years acquired the magnitude of a hen's egg; thus it remained many years, attended with such an exquisite sensibility, that he could scarce  
bear

bear to touch it in the gentlest manner, which was the state of it when he applied to me.

THE tumor now extended from the point of the heel, and was attached in its whole extent to the *Tendo Achillis*. Under these circumstances, there appearing, in consultation, no probability of relieving the patient otherwise, I was encouraged to undertake the extirpation of it, but first prognosticated that it might shew itself of a very ill character after the operation; yet the patient having endured so much with it many years, and daily growing worse, desired to take this chance for a cure. In the operation I cut as close to the bone as I could, without leaving it bare, and carefully dissected the tumor from the tendon; the operation was excessively painful, but the wound healed very kindly, and the patient was amply rewarded for his resolution by a speedy cure, and continuing well to this day.

A scrophulous *Caries* of the *Os Humeri*, &c. cured after being ill treated, and the limb condemned to be taken off.

February the 2d, 1742.

**M**R. D. R. of M. put his daughter, aged about fifteen, under my care, after having been under that of two practitioners, who had the misfortune to want a regular education in Surgery, and to be quite ignorant of Anatomy. In opening a *Sinus* up the arm from the joint in an oblique direction, they totally divided one of the *Extensors* of the wrist, and wondered, as well as the patient's father, at seeing the hand instantly fall, when the incision was made at such a distance: they had also injudiciously passed a seton under the tendon of the *Biceps*, which caused great pain every day by its irritation upon moving it; and they had introduced tents and hard dossils into several *Sinuses*, frequently



quently covering them with *Escharotics*, to consume luxuriant flesh that was perpetually growing up.

UNDER this treatment I found the limb exceedingly swelled, inflamed and painful, especially round the joint, which was become quite stiff, and an extensive *Caries* upon the *Os Humeri*, seeming to penetrate deep into its substance: she had a continual fever, kept up by putrid matter passing into her blood, and probably other acrimonious particles mixt with it, from the constant application of the *Escharotics*, which by keeping her in continual pain and breaking her rest, added much to the fever.

I THREW out the tents, hard dossils and seton forthwith, dressed superficially with dry lint and a soft cooling cerate over it, treating the case in all respects in the easiest and gentlest manner: by this means it soon had a more favorable appearance, she was immediately freed from the tormenting pain she had long indured, and found a sensible abatement of the fever, which went off gradually.

164 CASES and REMARKS

By this gentle kind of treatment, Nature not being interrupted in her work, cast off thick exfoliations from the carious bones, and effected a cure in about six months after the condemnation of the limb: it is as useful as an *Anchylosis* at the elbow-joint, with an impossibility of raising her hand, will admit of; and she is capable of almost every kind of family business.

A tumor

A tumor of the lymphatic kind, of an enormous size, upon a woman's arm between sixty and seventy years of age, extending from above the elbow to the wrist, which had been gradually increasing more than fifty years, and then turned cancerous.

SOME years ago, my Friend *Mr. Cooper* whom I have already mentioned, shewed me this tumor, when it could easily be moved upon the muscles; and the woman then had the free use and motion of her hand, fingers and elbow-joint.

THE tumor was little or no pain to her, but what arose from its weight, which she supported with a sling; the circumference of it then was near four feet, measuring from the elbow to the hand, and she resolved to carry it to the grave with her. About two years after, it beginning to have a cancerous aspect, and there being



## 166 CASES and REMARKS

reason to fear it would become very offensive to herself and every body about her, she was advised in a consultation of four Surgeons, to have her arm taken off; she then absolutely refused to submit to the operation: some months after, when she had experienced what she was told would in all probability be the consequence of keeping her limb, she was very desirous of losing it, but it was then too late; a fever and *Diarrhæa* seized her soon after, and released her from her miserable condition.

This tumor appeared to us vascular and vesicular; for we could not be sensible of a fluctuation, as in a quantity of a fluid collected together. The stench was so offensive immediately after her death, that Mr. *Cooper* durst not examine into the nature of the tumor. In the *German Ephem.* we read of a tumor of this nature upon a woman's arm of a most prodigious size.

A tumor

A tumor of the *ganglion* and *steatomatous Species* mixt. together.

June the 4th, 1734.

**M**R. R. W. a very robust man, aged about forty, asked my advice, concerning a large tumor without any external inflammation, extending from his wrist to the middle of the back of his hand, which he told me was occasioned by a violent strain three or four years before, and that it was now become extremely painful; his hand was intirely useles, hanging down and making a right angle with his arm, no proper care having been taken to support it.

UPON opening the tumor I found a fluid like the white of an egg, with a great many lumps of a suety substance suspended in it, resembling in color and form cloves of peeled garlic: I immediately cut away as much as I could of the *Cyst*, the rest digested off, and by the common treatment the cure was easily

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## 168 CASES and REMARKS

effected so far as to heal the ulcer; but it was a long while before the contractile power of the muscles could be recovered to elevate the hand, and the motion of the fingers was restored with equal difficulty; the tendons by long disuse being grown very rigid, and the *Synovia* in their sheaths inspissated.

THE use of the machine described in Pl. 12. to keep up his hand, and so contrived as to give an opportunity of moving the joints of the wrist and fingers, contributed very much to regain their motion: he kept the parts about half an hour twice a day, in a warm decoction of sheep's trotters to relax the rigid fibres, and attenuate the inspissated *Synovia*.

AFTERWARDS, when the wrist and fingers could bear to be moved freely without giving pain, I ordered that cold water should be pumped upon them every morning, for a few minutes, by which the tone of the parts was perfectly restored, and the patient used his hand, in five or six months, as well as he did before the accident.

The



The proper degree of heat for baths and fomentations, is that which gives a pleasing sensation of warmth to the parts, as it relaxes them and fuses the sluggish matter, putting it in a condition to be propelled by the action of the solids; but they will have quite contrary effects, if their heat be intense and gives pain. I have found a vapor-bath the most efficacious in relaxing rigid fibres.

## P L A T E    X I I .

This machine should be made a little concave, of light tough wood, such as beech, willow or alder: its dimensions for a limb of a common size should be about 10 inches long and  $3\frac{1}{2}$  broad: besides the hooks shewn upon the sides, it should have one in the middle: it is to be confined to the limb with fillets tied upon stiff paper as described.

This machine may also be found of signal service in a luxation of the wrist, or in a fracture near that joint, as well as in other cases where it is necessary to have the hand supported.

A wound

## A wound of the tendons.

*August* the 19th, 1736.

*J.* P. of *T.* an healthy strong man, in the time of harvest, having his sickle stuck into the side-pocket of his breeches, according to the custom of reapers when they bind up their sheaves, and taking up a stone to throw in sport at one of the gleaners, the sickle caught his arm, in its full swing and force, and totally divided the *Flexors* about two inches above the wrist: the man being hot at his work, the wound bled profusely, but one of the women had resolution enough to tie her garter strait about his arm, which effectually restrained the hæmorrhage until I got to him.

THE ends of the divided tendons were drawn far asunder, but by bending the wrist and forcing down the muscles, I brought them into contact as much as I possibly could, keeping them so by stitching and bandage: the wound healed kindly,



## 172 CASES and REMARKS

ly, and was quite cicatrized in a little more than a month; he recovered the perfect use of his arm, hand and fingers soon after, but sensation was destroyed below the wound, and never after restored.

Though I was not sensible of any inconvenience arising from stitching in this wound, yet I am inclined to think, that it would be better, in general, omitted in tendinous or membranous parts. I have been concerned in two cases where the *Tendo Achillis* was totally divided by cutting instruments; one of these wounds I stitched, the other I did not; both were cured without ill accidents, but that which I did not stitch I thought healed more kindly than the other. I used *Petit's* bandage, described in his *Treatise upon Diseases of the bones*, in both cases; but there is a very ingenious and excellent contrivance for the same purpose by *Professor Monro* in the first volume of the *Edinburgh Essays and Observations*.

The notion of healing by the first intention, being now, I believe, pretty generally exploded, stitching of wounds will consequently be less practised, though it may still be found useful, and necessary in some cases.

A very

## A very extraordinary Burn.

July the 15th, 1757.

**M.** H. servant to Mr. K. of T. arose between two and three of the clock this morning, in a violent tempest of thunder and lightening, and went into her master's room, where she struck fire, and whilst she was lighting a candle, having no covering but her cap, shift and one petty coat, a fiery *Meteor*, accompanied with a most tremendous clap of thunder, broke through the roof of the house, and descended to this room, which was upon the ground floor, fired her cap, hair, &c, threw her upon the floor, and burnt her from the crown of her head to the soles of her feet and fingers ends, in a most dreadful manner indeed: her master, in the utmost consternation, jumped out of bed, first extinguished the fire upon her cap, &c, then running out abroad, saw the roof blazing in a narrow compass, raised a ladder instantly, and poured water into the hole where he supposed the fire-ball passed, but to no purpose, the house being all in flames before any assistance could be procured.

IN

## 174 CASES and REMARKS

IN this hurry and confusion the woman was some time neglected, and when carried out of the house had neither sense nor motion; soon after she discovered some signs of life, but remained many days without senses or sight, though her eyes were not burnt so much as the other parts. The burn grew every where exquisitely sensible to the touch, and uncommonly painful; a most violent fever immediately ensued, attended, after about a week's continuance, with as thick a thrush as I ever saw: we almost despaired of her life, but at length she recovered, and has her senses, sight and use of her limbs perfectly.

THE dressings were chiefly *Ol. Lini* and a *Cerate* prepared with that, *Cera* and *Unguent. e Floribus Sambuci*. Bleeding repeatedly was found necessary, and an exact observance of the *Regimen* advised in inflammatory fevers, with the frequent use of *Opiates* to assuage the intolerable pain and soreness of the parts, taking particular care to keep her body open.

Some



## Some extraordinary effects of a fever.

*June* the 26th, 1740.

**I** WAS accidentally called in to see the son of J. P. of B. between thirteen and fourteen years of age, whom I found spinning at the wheel, totally deprived of hearing and sight, but it was his deafness I was desired to give my advice in, for the very globes of his eyes were sunk in their orbits, and left his parents not the least hopes of his ever seeing again, nor could I give them any more hopes of his ever hearing, after having examined his ears.

THE account they gave me of this poor unfortunate creature was, that about six months before, he was seized with a violent fever, which soon deprived him of his senses, and that it was eight or nine weeks before they had any expectation of his surviving it, but, being very poor, no medical assistance was had for him; during this  
time

## 176 CASES and REMARKS

time he totally lost his hearing and sight, the color of the hair of his head was changed from a dark brown to a white, and was as soft as an old person's of eighty or ninety, excepting on the *Vertex*, where it retained its natural color about the breadth of a crown; the hair of his eye-brows had suffered the same alteration: I also observed along the course of the coronal, sagittal and lambdoidal sutures, bony ridges half as thick as my finger.

THE boy now appeared in good health and in a thriving condition, did not seem to want understanding, and could find his way alone to some houses at a considerable distance, where he used to go formerly, and had gone since the loss of his sight, with his mother.

ABOUT seven years after, as I was travelling that way, my curiosity led me to inquire after and see this person again: his mother led him to me, I observed the hair of his head remained white, lank and soft, and brown upon the crown of  
I
his

his head, as when I saw him before; his beard was now beginning to sprout, which was of the natural brown color of his hair; his face looked still rather boyish, but there was a very strange mixture and appearance of youth and old age in it.

N

A case



A case of fragility, flexibility and dissolution of the bones, which I drew up formerly at the request of a friend, in order for him to transmit to Doctor *Pringle*, who desired an account of it, to communicate to the *Royal Society*.

**M**ARY HAYES, of *Stoke-Holy-Cross* near *Norwich* in *Norfolk*, was born *January* the 11th, 1718; had never been married, and always lived a regular, temperate life: her father was unhealthy, but it is not known what disease he was subject to; her mother was healthy: she herself was always looked upon as a strong healthy girl, until about fifteen years of age, then fell into the green-sickness, and took various medicines to no purpose: she had no other complaints until *October* 1748, when she was seized with pain universally, attended with feverish symptoms; she continued thus some weeks, after which the pain was chiefly confined to her legs and  

thighs,

thighs, but not increased by external pressure.

SHE broke her leg in *June* 1749, as she was walking from the bed to her chair, without falling down, and heard the bones snap. The fracture was properly treated by one of the ablest Surgeons, and due regard had to her indisposition; but instead of a *Callus* generating, the bones grew flexible from the knee to the ankle, in a few months: those of the other leg and thigh were visibly affected soon after, in the like manner; both legs and thighs then became œdematous and subject to excoriate, discharging a thin yellow *Ichor*: about this time I first saw her with the Surgeon who had the care of her.

THE winter after breaking her leg she had symptoms of the scurvy, and bled much at the gums.

MANY eminent Physicians prescribed for her, but without any effect, unless the regularity of her menstruation for the last eighteen months be ascribed to chalybeate medicines, which were part of their pre-

scriptions; though the same kind of medicines were formerly prescribed, and long continued, without having that effect, even when she was in a condition to take exercise.

ABOUT a year before her death she was removed to the parish she belonged to, where I had an opportunity of visiting her often, and observing the progress of her disease. She told me, she had found but little alteration of her complaints in general for some time past, and thought her appetite and digestion rather mended: she breathed with difficulty, and her *Thorax* appeared so much straitened, as necessarily impeded the expansion of the Lungs: her spine was much distorted; any motion of the *Vertebræ* of the loins excited extreme pain, and her legs and thighs being quite useless, she was confined to her bed in a sitting posture; the bones she rested upon, having lost their solidity, were much spread, and the ends of her fingers and thumbs, by frequent efforts to raise herself, were become very broad, with a curvature of their *Phalanges*: she now measured but four feet, though before this dis-



disease she was five foot and a half high, and well shaped.

FROM this time I observed the flexibility of her bones became gradually more general, the difficulty of breathing increased, with a wasting of her flesh: for the last four months of her life she had a total suppression of the menstrual discharge, and a great tendency in her legs to mortify, which had long been anasarctous and excoriated almost all over: she retained her senses perfectly to the last moment, and died without any sign of extraordinary pain.

TWO days after her death, which happened on *February* the 6th, 1753, her limbs being first well stretched out, she was measured and found wanting of her natural stature two feet and two inches. I opened the *Abdomen* and *Thorax*, removing the *Sternum* intirely, with some portion of the ribs, in order to gain at once a full view of those cavities, and to observe how the *Viscera* contained in them had obstructed each other, in their respective functions, as well as to inspect the state of them: the

## 182 CASES and REMARKS

the Heart and Lungs were found, but flaccid and much confined in their motion, to which the enormous size of the Liver contributed in some measure, extending quite across the *Abdomen*, and bearing hard against the Diaphragm by its increased gibbosity: the Lungs did not adhere to the *Pleura*, nor was the Liver scirrhus, it was faulty only in its bulk, the Mesentery was found, except one large scirrhus gland in it: the Spleen was extremely small: nothing else was found observable in these cavities:

ALL her bones, except the teeth, were more or less affected, and scarce any would resist the knife; those of the Head, *Thorax*, Spine and *Pelvis* were nearly of the same degree of softness: those of the lower extremities were much more dissolved than those of the upper or of any other part; they were changed into a kind of parenchymous substance like soft dark-colored Liver, without the least offensive smell. I cut through their whole length without turning the edge of the knife, and found less resistance than firm muscular flesh would have made, meeting only here  
and

and there with bony *Laminae* thin as an egg-shell.

THOSE bones were most dissolved which in their natural state were most compact, and contained most marrow in their cavities; this circumstance may appear the more worthy of observation, as it held throughout, and looks as if the wonderful change they had undergone, was occasioned by the marrow having acquired a dissolving quality; for it was evident, that the dissolution began internally, by the bony *Laminae* remaining here and there on the outside and no where else, and the pain in the beginning of the disease not being increased by external pressure.

THE *Periosteum* was rather thicker than ordinary, the Cartilages thinner, but no where in a state of dissolution like the bones.

I INTENDED to have opened the Scull and examined the Brain, had I been allowed time enough, but there was no reason, from any complaints, to suspect a defect in that part.

AN



# 184 CASES and REMARKS

AN eminent Physician and Surgeon were present at this examination of the body. Some time after, I shewed specimens of the dissolved bones to Dr. *Pringle* in *London*, and then sent them to Dr. *Hunter*, who has occasionally exhibited them in his anatomical Lectures.

July 1753 I saw a similar case to this in a woman, aged twenty five, in the work-house at *Norwich*, under the care of Mr. *Swift*, an ingenious man, and a very able Surgeon: he obtained an order from the Court of Guardians to detain the body after death for our inspection, but as soon as the woman was dead, what was intended to be done spreading abroad, a mob rose and peremptorily demanded the body to inter it, and the master of the house delivered it, fearing bad consequences might ensue upon his refusal; thus we were disappointed in our intended enquiry.

In this woman's case the Ribs, being grown very soft, fell, with the *Sternum*, flat upon the Lungs and obstructed respiration to such a degree, that when I saw her she lay panting for life: the contrary happened in the case I have been giving a narrative of: there the Ribs and *Sternum* turned outwards, by which circumstance respiration was not so much obstructed, though the capacity of the *Thorax* was greatly shortened, and the Lungs had not room to expand freely.



